

S
333.9102
F2yri
1981-82

The Yellowstone River Instream Reservation

STATE DOCUMENTS COLLECTION

AUG 6 - 1985

DEC. 16, 1981 - DEC. 15, 1982

MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620



FOURTH ANNUAL REPORT

MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

Compiled By

Larry Peterman and Fred Nelson

Ecological Services Division
Department of Fish, Wildlife and Parks

MAY 24 1999



JUL 12 1999

THE YELLOWSTONE RIVER
INSTREAM
RESERVATION

FOURTH ANNUAL REPORT
for the period
Dec. 16, 1981 - Dec. 15, 1982

Compiled by:

Larry Peterman
and
Fred Nelson

Ecological Services Division
Montana Department of Fish, Wildlife and Parks
1420 East Sixth Avenue
Helena, Montana 59620

December, 1982

TABLE OF CONTENTS

INTRODUCTION.....	1
COMPLETED INSTREAM FLOW QUANTIFICATIONS.....	2
COMPLETED FIELD MEASUREMENTS.....	2
PLAN AND SCHEDULE FOR DATA COLLECTION.....	5
APPENDIX A.....	7
Brackett Creek Near Clyde Park.....	7-18
Rock Creek Near Red Lodge.....	19-30
Bluewater Creek Near Bridger.....	31-42
Sweet Grass Creek Above Melville.....	43-54
APPENDIX B.....	55

INTRODUCTION

The Order of the Board of Natural Resources and Conservation establishing water reservations for the Yellowstone basin was signed on December 15, 1978. As a result of that Order, the Department of Fish, Wildlife and Parks was granted an instream reservation for the Yellowstone at Sidney of approximately 5.5 million acre-feet of water with varying amounts granted in upstream areas and tributaries.

The Department applied for instream reservations on many streams and tributaries where little, if any, flow data were available. In granting an instream reservation for those waters, the Board frequently granted a percentile flow rather than a specific amount of water in acre-feet or cfs. In such areas the Department was directed by the Board through condition 116 to develop and submit to the Board within 5 years of December 15, 1978, a plan to convert the minimum instream flow reservation quantities into cubic feet of water per second and acre-feet of water per month.

Condition 117 states that the reservant shall submit to the Board an annual progress report setting forth accomplishment toward completion of such work as outlined in condition 116, a schedule of anticipated progress and other information as may be required. This report is designed to fulfill the requirements of the fourth-year annual progress report.

The first annual progress report outlined a tentative plan for accomplishing the objectives in condition 116. The tentative plan was then reviewed, commented on and revised. The finalized plan was submitted in the second annual report and was approved by the Board on June 5, 1981. The third annual report contained a verification of the Riggs' Method (Riggs 1968), on the upper Yellowstone as outlined in the second annual report. Application of the Riggs' Method requires that monthly flow measurements for one year be taken on the streams to be analyzed. For those streams, a plan and tentative schedule for collection of the necessary data were presented in the third annual report.

This report presents the data for four streams where the quantification analysis has been completed. It also lists those streams where the field measurements have been completed, but the Riggs' Method analysis has not yet been done. Lastly, a revised work schedule for completion of this task is presented.

Completed Instream Flow Quantifications

A search of existing streamflow data was done to determine which streams had sufficient, continuous, long-term streamflow records to enable quantification of certain instream reservations. Existing, long-term flow records at USGS gage sites are sufficient for four stream reaches having an instream reservation and the granted percentile flows have been quantified. These are:

1. Bluewater Creek (mouth-headwaters)
Gage # 6-2078 at stream mile 12.1
2. Brackett Creek (mouth-Sheep Creek)
Gage # 6-1940 at stream mile 4.7
3. Rock Creek (mouth-Custer National Forest)
Gage # 6-2095 at stream mile 46.0
4. Sweet Grass Creek (mouth-Forest Service boundary)
Gage # 6-2005 at stream mile 58.6

The percentile flows were derived by the USGS using their computer program entitled K956 Daily Values Duration Hydrograph Tables and Plots. The computer printouts are attached in Appendix A. The granted percentile flows for the four reaches in terms of cubic feet of water per second and acre-feet of water per month are presented in Table 1.

In addition, two USGS gage sites on the Clarks Fork River (Gage # 6-2088 at river mile 16.3 and Gage # 6-2075 at river mile 71.1) have sufficient, continuous, long-term record for the calculation of percentile flows using USGS computer program K956. The USGS is currently performing the computations which will be included in a later report.

Completed Field Measurements

Instantaneous flow measurements that have been collected or are presently being collected in conjunction with other studies by the USGS and the MDFWP are sufficient for use in the Riggs' Method for defining the granted percentile flows for many of the stream reaches having an instream reservation. Short-term USGS gage records for many sites are also suitable for use in the Riggs' Method. At other sites, additional flow measurements may be needed to supplement existing records or fill in voids in the data. These sites and a brief summary of the existing flow records are listed in Table 2. For those sites marked with an asterisk, existing flow records are judged sufficient for deriving the monthly percentile flows, provided these measurements can be correlated with the flows at established gage sites having long-term records. The available instantaneous flow records for the various sites are listed in Appendix Table B.

Table 1. Quantification of granted percentile flows in cubic feet of water per second and acre-feet per month.

	Bluewater Creek 85th Percentile		Brackett Creek 50th Percentile	
	cfs	AF	cfs	AF
Jan.	26.7	1,641	7.1	436
Feb.	27.0	1,499	6.3	350
Mar.	27.4	1,684	9.2	566
Apr.	28.1	1,672	41.7	2,481
May	27.1	1,666	100.0	6,147
Jun.	26.1	1,553	78.8	4,688
Jul.	24.2	1,488	26.8	1,647
Aug.	24.8	1,525	10.9	670
Sep.	26.1	1,553	10.7	637
Oct.	26.7	1,641	9.9	609
Nov.	26.1	1,553	9.0	535
Dec.	26.7	1,641	6.6	406
	19,116 AF/year		19,172 AF/year	

	Rock Creek 85th Percentile		Sweet Grass Creek 90th Percentile	
	cfs	AF	cfs	AF
Jan.	30.8	1,893	8.7	535
Feb.	28.3	1,571	7.8	433
Mar.	26.8	1,647	7.7	473
Apr.	32.0	1,904	10.0	595
May	116.0	7,131	82.2	5,053
Jun.	426.5	25,372	260.0	15,467
Jul.	344.5	21,177	115.0	7,069
Aug.	213.0	13,094	50.3	3,092
Sep.	117.5	6,990	29.9	1,779
Oct.	68.7	4,223	26.0	1,598
Nov.	48.1	2,861	17.7	1,053
Dec.	37.5	2,305	10.9	670
	90,168 AF/year		37,817 AF/year	

Table 2. Summary of available short-term USGS gage records and instantaneous flow measurements for streams having an instream flow reservation.

Stillwater Tributaries

- *1. Castle Creek (mouth - 1,500 ft. above Picket Pin Creek)
12 monthly measurements by the USGS, 1972-73
- *2. East Rosebud Creek (Custer National Forest boundary - West Rosebud Creek)
USGS gage at Roscoe, 1922-24
- *3. Fishtail Creek (mouth - confluence of East and West Fishtail creeks)
8 measurements by the USGS, 1981-82
12 monthly measurements being collected by the USGS, 1982-83
- *4. Picket Pin Creek (mouth - Swamp Creek)
18 measurements by the MDFWP, 1975-76
- *5. West Fork of Stillwater (mouth - Castle Creek)
12 monthly measurements by the USGS, 1970-71
11 monthly measurements by the USGS, 1971-72
12 monthly measurements by the USGS, 1972-73
8 measurements by the USGS, 1981-82
12 monthly measurements being collected by USGS, 1982-83
- 6. West Fork of Stillwater (Castle Creek - Sweetgrass/Stillwater Co. line)
14 measurements by the MDFWP, 1975-76
No high flow measurements
- *7. West Fork of Stillwater (Sweetgrass/Stillwater Co. line - Tumble Creek)
7 measurements by the USGS, 1981-82
6 measurements being collected by the USGS, 1982-83
14 measurements by the MDFWP, 1975-76
No high flow measurements
- *8. Butcher Creek (W. Butcher Creek - mouth)
USGS gage #6-2043, 1960-62
Also three sites with 7-14 measurements by the USGS, 1960-61

Yellowstone Tributaries

- *9. Bear Creek (mouth - North Fork of Bear Creek)
USGS gage #6-1895, 1946-49
- *10. Big Creek (mouth - Millfork Creek)
USGS gage # 6-1918, 1973 - present; will be operated for 10 years
- *11. Mill Creek (mouth - East Fork)
USGS gage #6-1920, 1951-56

In addition, sufficient, long-term gage records are available for computing the granted percentile flows during the non-winter months at sites on Red Lodge Creek (#6-2110) and Willow Creek (#6-2115) in the Clarks Fork drainage. These gages were established by the USGS in 1937 and have operated to the present. However, no winter records are available for most years. The present computer program of the USGS is incapable of analyzing those years having partial flow records. The percentile flows at these two sites could be derived for the non-winter months if the appropriate computer program was available. The Helena office of the USGS plans to have the capability of analyzing these partial records in the near future after their new computer is installed.

Plan and Schedule for Data Collection

The quantification of the granted percentile flows for those streams having insufficient flow records will be completed by the Helena office of USGS through an extension of a cost-share, cooperative agreement with the MDFWP. The agreement specifies that the necessary field measurements will be completed by the USGS in two years and all data analyses and quantifications completed by the end of the third year. The MDFWP was originally scheduled to conduct this work, completing all quantifications within a four-year period.

During the first year of the agreement, the monthly flow measurements that are needed for use in the Riggs' Method will be collected at 19 ungaged sites on streams within the Upper Yellowstone River drainage upstream from Livingston, Montana. These stream sites are as follows:

1. Bear Creek above North Fork near Jardine
2. Cinnabar Creek above Cottonwood Creek near Gardiner
3. Cinnabar Creek above Mol Heron Creek near Gardiner
4. Mol Heron Creek above Cinnabar Creek near Gardiner
5. Cedar Creek at Mouth near Gardiner
6. Tom Miner Creek above Canyon Creek near Gardiner
7. Tom Miner Creek at Mouth near Gardiner
8. Rock Creek at Mouth near Gardiner
9. Sixmile Creek above diversions near Emigrant
10. Fridley Creek above Miller Creek near Emigrant
11. Fridley Creek at Mouth near Emigrant

12. Coke Creek near Livingston
13. Eightmile Creek above Mouth (Sec. 33) near Pray
14. Mill Creek above diversions near Pray
15. Trail Creek above Pine Creek near Livingston
16. Suce Creek at Mouth near Livingston
17. Billman Creek above Coke Creek near Livingston
18. Billman Creek at Mouth at Livingston
19. Fleshman Creek at Mouth at Livingston

Sites on Cedar Creek above its Second Fork and Eight Mile Creek above Big Draw were originally slated for quantification during the first year, but were dropped by the USGS due to poor access to the sites.

The Riggs' Method, as described in the Third Annual Yellowstone Instream Reservation Report, is to be applied at these sites, using the flows at the USGS gage station on Big Creek (#6-1918) for correlation. This is the only gage that is presently operating on the upper Yellowstone tributaries above Livingston and the only tributary gage having recent flow records. This gage was established in September 1973, discontinued in September 1979 and reactivated, using MDFWP funds, in October 1982. The gage will continue to operate until 10 years of record are obtained.

The flow measurements on the unquantified streams were originally scheduled to begin in March 1982, but were delayed until November 1982 to correspond to the reactivation of the Big Creek gage. Monthly flow measurements at the 19 sites will continue through October 1983, and the quantification of the percentile flows for these sites completed by April 1984. Flow measurements for the remaining unquantified tributaries to the Shields, Yellowstone, Clarks Fork and Stillwater rivers are scheduled to begin in November 1983, end in October 1984, and the quantification of the granted percentile flows completed by October 1985. The remainder of the flow quantification will be dependent upon available funding.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 05/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
7-01	11.00	9.00	8.50	7.00	5.50	5.00	4.00	3.60	2.00
7-02	11.00	10.00	9.00	7.00	5.50	5.00	4.50	4.00	2.00
7-03	12.00	11.00	9.00	7.00	5.50	5.00	5.00	4.00	0.90
7-04	11.00	11.00	9.50	8.50	6.50	6.00	5.00	4.00	1.50
7-05	12.00	12.00	9.00	8.50	6.50	6.00	5.00	4.50	2.50
7-06	13.00	13.00	8.50	8.50	6.00	6.00	5.00	3.50	3.00
7-07	15.00	12.00	10.00	8.50	6.00	5.00	5.00	3.20	3.00
7-08	16.00	11.00	10.00	9.00	5.50	5.00	5.00	3.50	0.30
7-09	24.00	15.00	10.00	8.00	6.00	5.00	4.00	2.50	0.90
7-10	60.00	10.00	8.50	8.00	6.10	5.00	2.50	2.00	1.00
7-11	50.00	15.00	9.00	8.50	6.70	4.00	3.00	2.00	2.00
7-12	22.00	20.00	9.00	8.50	7.00	4.20	3.00	2.50	2.00
7-13	35.00	18.00	9.00	8.00	7.00	6.00	3.50	2.00	2.00
7-14	30.00	27.00	7.00	8.00	6.50	5.00	3.20	3.00	2.00
7-15	21.00	16.00	7.00	7.00	5.50	4.50	3.50	2.00	2.00
7-16	16.00	13.00	7.50	6.00	5.00	4.20	3.60	3.00	1.50
7-17	15.00	15.00	8.00	6.00	5.00	4.20	3.00	3.00	1.50
7-18	13.00	13.00	8.00	8.00	5.00	4.00	3.00	2.50	2.00
7-19	13.00	10.00	8.00	8.00	6.50	6.00	3.50	2.70	2.00
7-20	13.00	11.00	8.00	7.50	6.20	5.00	3.90	2.00	2.00
7-21	13.00	12.00	10.00	8.00	6.60	5.00	3.50	3.00	3.00
7-22	13.00	13.00	10.00	8.00	6.00	5.00	3.50	2.50	2.50
7-23	13.00	13.00	12.00	9.00	6.00	5.00	3.50	2.00	2.00
7-24	16.00	13.00	12.00	10.00	6.50	4.50	4.00	3.50	1.00
7-25	40.00	17.00	11.00	9.00	6.50	6.00	4.00	3.00	2.50
7-26	50.00	16.00	10.00	9.00	6.10	5.00	4.00	4.00	2.00
7-27	28.00	16.00	10.50	8.00	6.50	6.00	4.50	3.50	3.00
7-28	17.50	11.50	10.10	8.00	6.33	5.00	4.50	2.90	2.50

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 05/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
3-01	21.00	14.00	10.00	8.00	6.40	5.80	5.10	3.00	3.00
3-02	13.00	11.00	9.10	8.00	6.40	5.30	5.00	2.50	2.00
3-03	17.00	12.00	11.00	9.00	6.00	5.10	5.00	3.00	2.00
3-04	12.00	11.00	9.50	8.00	6.00	4.70	3.90	3.50	2.00
3-05	23.00	11.00	10.00	8.00	6.00	5.20	4.00	3.00	2.50
3-06	16.00	14.00	8.70	8.00	6.40	4.50	4.50	3.00	1.50
3-07	14.00	10.00	4.00	7.00	6.00	5.00	4.00	3.00	2.00
3-08	17.00	9.40	8.00	8.00	6.40	5.50	5.00	4.00	2.00
3-09	12.00	11.00	4.00	8.00	5.90	5.00	5.00	4.20	4.00
3-10	16.00	10.00	9.00	9.00	6.40	5.50	5.00	4.60	4.00
3-11	16.00	17.00	9.00	8.00	7.00	5.50	4.60	4.00	3.70
3-12	16.00	15.00	10.00	8.50	7.00	5.00	4.50	4.00	3.00
3-13	23.00	16.00	11.00	8.00	7.00	5.00	4.50	3.70	2.00
3-14	13.00	13.00	12.00	9.50	6.50	5.70	4.50	2.00	2.00
3-15	12.00	11.00	9.60	7.00	5.90	5.50	3.70	3.00	2.50
3-16	15.00	11.00	8.90	7.40	6.00	5.00	4.80	3.00	2.00
3-17	33.00	20.00	10.00	9.40	6.70	6.00	4.50	3.00	3.00
3-18	54.00	17.00	12.00	10.00	7.00	6.50	6.50	3.50	3.00
3-19	29.00	17.00	11.00	10.00	8.00	6.50	4.00	3.00	2.60
3-20	24.00	20.00	12.00	11.00	7.70	6.50	4.70	4.00	2.50
3-21	51.00	40.00	15.00	9.70	9.60	6.50	4.90	3.40	3.00
3-22	65.00	43.00	17.00	13.00	9.60	5.00	5.00	4.50	3.50
3-23	70.00	36.00	30.00	18.00	9.40	7.30	5.80	4.50	3.60
3-24	64.00	50.00	21.00	16.00	10.00	7.00	5.00	4.20	2.50
3-25	71.00	60.00	32.00	16.00	9.00	7.50	6.00	5.00	2.00
3-26	47.00	40.00	20.00	14.00	9.10	7.40	5.00	4.70	2.50
3-27	37.00	20.00	13.00	10.00	9.40	7.00	5.00	4.00	3.50
3-28	120.00	32.00	23.00	14.00	10.00	7.50	5.80	4.50	4.50
3-29	147.00	39.00	24.00	18.00	10.00	7.40	6.00	4.50	4.60
3-30	77.00	43.00	27.00	22.00	12.00	8.40	6.50	4.50	4.60
3-31	43.00	47.00	26.00	25.00	15.00	11.00	8.70	7.00	4.00
6-1-4	22.10	18.90	15.40	14.90	9.21	7.44	6.25	5.30	4.26

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

TABLE 1. G. 19497.3. PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DAT	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
10-01	100.00	44.00	36.00	25.00	17.00	12.00	7.50	6.70	4.00		
10-02	97.00	41.00	35.00	24.00	15.00	12.00	7.00	5.00	4.60		
10-03	61.00	31.00	37.00	21.00	13.00	10.00	8.50	6.00	3.90		
10-04	53.00	46.00	37.00	23.00	15.00	12.00	11.00	7.80	7.00		
10-05	56.00	50.00	36.00	22.00	19.00	14.00	17.00	9.00	7.80		
10-06	46.00	52.00	28.00	25.00	20.00	16.00	15.00	9.30	8.40		
10-07	70.00	43.00	30.00	29.00	22.00	13.00	12.00	7.00	6.40		
10-08	60.00	55.00	40.00	25.00	21.00	12.00	10.00	9.70	9.30		
10-09	100.00	60.00	38.00	27.00	21.00	16.00	12.00	11.00	7.60		
10-10	100.00	50.00	36.00	31.00	23.00	14.00	12.00	7.00	5.70		
10-11	110.00	53.00	40.00	39.00	21.00	15.00	12.00	9.00	7.60		
10-12	120.00	66.00	51.00	36.00	27.00	18.00	15.00	10.00	8.40		
10-13	100.00	93.00	61.00	40.00	25.00	20.00	16.00	8.90	8.00		
10-14	100.00	100.00	70.00	53.00	36.00	22.00	19.00	9.30	8.30		
10-15	100.00	100.00	60.00	65.00	36.00	26.00	23.00	9.30	9.40		
10-16	160.00	100.00	90.00	51.00	41.00	24.00	19.00	9.30	9.30		
10-17	100.00	100.00	100.00	90.00	52.00	26.00	14.00	9.30	9.40		
10-18	100.00	141.00	110.00	100.00	63.00	26.00	14.00	8.70	0.90		
10-19	100.00	100.00	100.00	100.00	60.00	31.00	14.00	9.30	8.70		
10-20	100.00	100.00	100.00	119.00	63.00	36.00	19.00	16.00	11.00		
10-21	100.00	100.00	100.00	116.00	61.00	31.00	24.00	18.00	17.00		
10-22	100.00	100.00	100.00	100.00	50.00	31.00	31.00	25.00	19.00		
10-23	100.00	100.00	100.00	100.00	62.00	36.00	31.00	27.00	20.00		
10-24	100.00	100.00	100.00	104.00	63.00	40.00	33.00	29.00	21.00		
10-25	100.00	100.00	100.00	93.00	50.00	40.00	37.00	26.00	19.00		
10-26	100.00	100.00	100.00	81.00	60.00	40.00	37.00	20.00	18.00		
10-27	100.00	100.00	100.00	90.00	60.00	36.00	36.00	26.00	19.00		
10-28	100.00	100.00	100.00	90.00	61.00	36.00	33.00	30.00	20.00		
10-29	100.00	100.00	100.00	104.00	70.00	50.00	40.00	20.00	27.00		
10-30	100.00	100.00	100.00	112.00	70.00	51.00	40.00	20.00	26.00		
10-31	100.00	90.00	80.00	60.00	41.00	31.00	23.00	19.00	14.00		

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

TABLE 66/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

STATION	0.10	0.20	0.40	0.50	0.70	0.80	0.90	1.00
01	197.00	175.00	116.00	75.00	55.00	40.00	30.00	25.00
02	343.00	172.00	115.00	79.00	61.00	48.00	32.00	23.00
03	267.00	135.00	111.00	82.00	57.00	54.00	32.00	29.00
04	222.00	132.00	120.00	91.00	66.00	56.00	31.00	27.00
05	244.00	101.00	116.00	93.00	70.00	57.00	36.00	27.00
06	471.00	163.00	113.00	99.00	79.00	57.00	45.00	26.00
07	251.00	103.00	126.00	90.00	67.00	56.00	40.00	27.00
08	242.00	221.00	129.00	84.00	66.00	57.00	43.00	27.00
09	209.00	205.00	150.00	87.00	67.00	59.00	43.00	25.00
10	216.00	176.00	127.00	87.00	67.00	50.00	48.00	27.00
11	133.00	103.00	133.00	87.00	76.00	54.00	52.00	33.00
12	235.00	159.00	133.00	91.00	71.00	66.00	53.00	49.00
13	272.00	167.00	149.00	91.00	77.00	65.00	59.00	46.00
14	191.00	109.00	161.00	104.00	74.00	70.00	54.00	45.00
15	166.00	132.00	137.00	129.00	76.00	60.00	52.00	48.00
16	167.00	166.00	146.00	116.00	70.00	64.00	54.00	52.00
17	215.00	202.00	149.00	111.00	68.00	61.00	54.00	52.00
18	230.00	245.00	140.00	85.00	69.00	65.00	54.00	51.00
19	403.00	271.00	131.00	91.00	67.00	67.00	56.00	46.00
20	530.00	225.00	122.00	95.00	75.00	65.00	51.00	46.00
21	550.00	254.00	112.00	100.00	74.00	59.00	44.00	43.00
22	636.00	300.00	164.00	95.00	74.00	57.00	32.00	23.00
23	325.00	271.00	165.00	83.00	69.00	59.00	34.00	28.00
24	311.00	300.00	172.00	77.00	70.00	61.00	26.00	22.00
25	310.00	200.00	154.00	95.00	72.00	57.00	24.00	23.00
26	243.00	174.00	161.00	101.00	72.00	52.00	23.00	21.00
27	240.00	224.00	163.00	116.00	60.00	49.00	27.00	12.00
28	233.00	200.00	166.00	106.00	71.00	49.00	26.00	9.00
29	200.00	200.00	156.00	94.00	65.00	41.00	26.00	11.00
30	270.00	160.00	166.00	110.00	65.00	39.00	23.00	18.00
31	240.00	133.00	157.00	100.00	80.00	55.00	52.00	51.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	HEIGHT	+10	+20	+30	+50	+70	+80	+90	LOW
6-21	246.00	168.00	142.00	135.00	97.00	69.00	43.00	29.00	19.00
6-22	255.00	161.00	147.00	135.00	101.00	65.00	37.00	30.00	19.00
6-23	491.00	153.00	135.00	111.00	101.00	67.00	35.00	31.00	15.00
6-24	600.00	175.00	132.00	129.00	104.00	69.00	67.00	40.00	14.00
6-25	373.00	370.00	125.00	124.00	111.00	70.00	54.00	44.00	13.00
6-26	279.00	271.00	136.00	129.00	110.00	68.00	64.00	38.00	15.00
6-27	253.00	233.00	135.00	116.00	100.00	64.00	52.00	41.00	16.00
6-28	245.00	175.00	130.00	122.00	95.00	66.00	60.00	45.00	18.00
6-29	246.00	202.00	130.00	116.00	94.00	66.00	61.00	42.00	24.00
6-30	300.00	271.00	162.00	115.00	90.00	61.00	61.00	46.00	22.00
6-1	254.00	203.00	145.00	125.00	90.00	62.00	56.00	44.00	25.00
6-2	274.00	199.00	125.00	119.00	80.00	61.00	64.00	42.00	25.00
6-3	259.00	161.00	125.00	115.00	96.00	60.00	54.00	41.00	22.00
6-4	245.00	164.00	124.00	105.00	91.00	55.00	49.00	39.00	13.00
6-5	221.00	132.00	113.00	108.00	90.00	50.00	44.00	31.00	19.00
6-6	232.00	132.00	113.00	105.00	76.00	50.00	43.00	26.00	12.00
6-7	185.00	132.00	113.00	101.00	72.00	50.00	41.00	35.00	25.00
6-8	156.00	125.00	105.00	105.00	69.00	55.00	39.00	41.00	22.00
6-9	164.00	131.00	115.00	97.00	65.00	48.00	44.00	35.00	32.00
6-10	163.00	135.00	105.00	89.00	69.00	48.00	45.00	39.00	28.00
6-11	162.00	124.00	113.00	89.00	64.00	55.00	32.00	30.00	30.00
6-12	150.00	105.00	97.00	85.00	64.00	46.00	36.00	30.00	29.00
6-13	155.00	126.00	93.00	76.00	64.00	55.00	42.00	32.00	25.00
6-14	154.00	119.00	95.00	71.00	59.00	44.00	34.00	25.00	25.00
6-15	145.00	130.00	87.00	63.00	56.00	44.00	35.00	26.00	25.00
6-16	134.00	104.00	82.00	65.00	52.00	42.00	35.00	24.00	21.00
6-17	135.00	134.00	94.00	68.00	56.00	46.00	35.00	12.00	15.00
6-18	164.00	113.00	95.00	71.00	51.00	43.00	32.00	16.00	16.00
6-19	133.00	95.00	68.00	46.00	46.00	40.00	36.00	16.00	16.00
6-20	114.00	93.00	90.00	76.00	54.00	38.00	33.00	16.00	16.00
6-21	216.00	153.00	113.00	100.00	78.00	54.90	51.20	42.50	24.00

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/1940/00 PLOTTING POINTS FOR DECADES HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	01.00	01.10	01.20	01.30	01.40	01.50	02.00	02.10	02.20	02.30	02.40	02.50	03.00
7-01	116.00	110.00	84.00	72.00	45.00	37.00	33.00	10.00	16.00				
7-02	103.00	101.00	81.00	66.00	47.00	37.00	20.00	21.00	16.00				
7-03	95.00	93.00	79.00	66.00	45.00	38.00	27.00	17.00	15.00				
7-04	98.00	67.00	72.00	58.00	43.00	37.00	28.00	15.00	17.00				
7-05	95.00	67.00	69.00	55.00	41.00	38.00	26.00	23.00	13.00				
7-06	91.00	65.00	67.00	54.00	41.00	32.00	26.00	20.00	12.00				
7-07	82.00	60.00	61.00	50.00	36.00	30.00	24.00	17.00	11.00				
7-08	77.00	77.00	63.00	44.00	36.00	29.00	19.00	16.00	12.00				
7-09	76.00	72.00	57.00	42.00	34.00	26.00	20.00	14.00	12.00				
7-10	62.00	63.00	57.00	41.00	34.00	25.00	19.00	14.00	11.00				
7-11	63.00	66.00	60.00	43.00	32.00	25.00	17.00	13.00	11.00				
7-12	64.00	64.00	54.00	46.00	30.00	26.00	17.00	14.00	12.00				
7-13	64.00	62.00	49.00	42.00	26.00	25.00	19.00	13.00	13.00				
7-14	66.00	53.00	45.00	34.00	26.00	24.00	17.00	13.00	12.00				
7-15	52.00	61.00	43.00	33.00	25.00	26.00	16.00	13.00	12.00				
7-16	50.00	53.00	41.00	30.00	26.00	22.00	14.00	13.00	10.00				
7-17	69.00	53.00	39.00	30.00	23.00	21.00	14.00	11.00	8.70				
7-18	51.00	51.00	36.00	26.00	23.00	20.00	12.00	12.00	9.60				
7-19	51.00	49.00	34.00	27.00	22.00	19.00	13.00	12.00	8.70				
7-20	50.00	47.00	37.00	27.00	20.00	19.00	15.00	11.00	8.00				
7-21	48.00	47.00	31.00	27.00	19.00	17.00	12.00	11.00	9.70				
7-22	64.00	46.00	31.00	26.00	18.00	15.00	10.00	9.60	6.60				
7-23	42.00	47.00	34.00	27.00	18.00	22.00	9.00	0.00	5.30				
7-24	40.00	39.00	29.00	26.00	19.00	12.00	10.00	7.90	4.90				
7-25	43.00	30.00	20.00	24.00	18.00	13.00	11.00	6.60	5.30				
7-26	40.00	36.00	23.00	24.00	16.00	13.00	11.00	6.00	5.30				
7-27	45.00	35.00	24.00	23.00	16.00	13.00	11.00	6.60	6.60				
7-28	34.00	32.00	24.00	19.00	16.00	12.00	10.00	9.00	6.00				
7-29	51.00	30.00	24.00	19.00	16.00	11.00	10.00	9.00	6.60				
7-30	56.00	39.00	26.00	19.00	14.00	11.00	9.90	6.60	5.90				
7-31	61.00	46.00	28.00	17.00	16.00	9.60	9.00	6.60	4.90				
7-32	66.00	50.00	40.20	31.00	26.80	23.50	18.30	13.40	10.20				

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 0671449/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1917

DATE	HIGH	10	20	30	40	50	60	70	80	90	LOW
9-01	47.00	40.00	26.00	10.00	14.00	14.00	8.00	8.00	8.20	6.00	5.80
9-02	48.00	32.00	20.00	19.00	14.00	14.00	8.20	8.20	7.70	5.30	4.70
9-03	36.00	29.00	26.00	19.00	12.00	12.00	8.00	8.00	7.40	5.30	4.40
9-04	22.00	32.00	23.00	20.00	11.00	11.00	8.40	8.40	7.70	6.10	3.30
9-05	55.00	34.00	17.00	18.00	9.70	9.70	8.60	8.60	7.70	5.30	3.60
9-06	50.00	29.00	14.00	10.00	12.00	12.00	7.00	7.00	7.20	4.60	2.60
9-07	44.00	29.00	20.00	17.00	11.00	11.00	7.40	7.40	6.50	4.60	3.50
9-08	42.00	24.00	16.00	16.00	13.00	13.00	7.20	7.20	5.50	4.20	3.70
9-09	41.00	23.00	18.00	16.00	12.00	12.00	7.20	7.20	6.50	5.40	3.70
9-10	34.00	23.00	13.00	15.00	11.00	11.00	7.70	7.70	5.60	5.10	3.30
9-11	44.00	21.00	14.00	15.00	10.00	10.00	7.20	7.20	5.70	4.00	3.00
9-12	43.00	34.00	17.00	16.00	9.70	9.70	7.60	7.60	5.80	4.90	3.30
9-13	35.00	33.00	14.00	15.00	9.70	9.70	7.00	7.00	6.10	4.00	3.30
9-14	31.00	30.00	15.00	16.00	9.70	9.70	7.90	7.90	6.00	3.70	3.00
9-15	27.00	20.00	10.00	16.00	9.70	9.70	8.20	8.20	7.00	3.50	3.50
9-16	26.00	23.00	10.00	15.00	9.70	9.70	7.90	7.90	6.60	3.50	3.30
9-17	24.00	21.00	15.00	14.00	9.00	9.00	7.60	7.60	7.00	3.00	3.00
9-18	26.00	20.00	16.00	14.00	9.20	9.20	7.90	7.90	7.00	3.50	3.00
9-19	24.00	11.00	16.00	12.00	9.10	9.10	7.70	7.70	6.70	3.50	3.00
9-20	27.00	21.00	16.00	14.00	8.80	8.80	7.80	7.80	6.70	3.90	2.60
9-21	24.00	21.00	16.00	14.00	8.70	8.70	7.70	7.70	6.60	4.00	3.00
9-22	21.00	19.00	16.00	13.00	8.70	8.70	7.20	7.20	6.60	4.40	2.40
9-23	20.00	10.00	15.00	10.00	8.00	8.00	6.90	6.90	6.40	4.00	3.00
9-24	20.00	10.00	14.00	13.00	9.10	9.10	7.00	7.00	6.70	5.10	2.90
9-25	20.00	19.00	15.00	11.00	10.00	10.00	8.00	8.00	7.20	5.00	3.00
9-26	20.00	19.00	16.00	13.00	9.90	9.90	8.00	8.00	7.00	5.10	3.70
9-27	13.00	10.00	15.00	11.00	10.00	10.00	9.20	9.20	7.30	6.60	4.40
9-28	17.00	17.00	16.00	11.00	10.00	10.00	8.00	8.00	7.00	4.80	4.70
9-29	19.00	17.00	16.00	12.00	10.00	10.00	8.00	8.00	7.80	5.60	4.70
9-30	16.00	17.00	14.00	12.00	10.00	10.00	8.40	8.40	7.70	4.60	4.40
9-31	16.00	15.00	15.00	13.00	10.00	10.00	8.40	8.40	7.20	5.10	4.70
9-31A	30.60	24.70	16.50	13.40	10.90	10.90	8.46	8.46	7.36	4.55	3.82

STATION 06/1940/00 PLUETING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
9-01	19.00	16.00	15.00	12.00	9.30	8.40	6.40	5.10	4.70		
9-02	18.00	16.00	15.00	13.00	9.30	8.40	7.60	5.40	3.70		
9-03	21.00	17.00	15.00	13.00	11.00	8.40	7.60	4.40	4.00		
9-04	19.00	18.00	15.00	14.00	9.90	8.20	8.00	4.80	4.40		
9-05	17.00	15.00	15.00	15.00	12.00	8.40	8.00	5.10	3.70		
9-06	17.00	16.00	15.00	14.00	11.00	9.70	6.90	5.40	4.00		
9-07	15.00	15.00	14.00	13.00	11.00	9.40	6.90	6.60	4.20		
9-08	16.00	16.00	15.00	13.00	11.00	9.20	8.00	6.60	5.80		
9-09	19.00	18.00	16.00	12.00	11.00	9.00	8.40	5.40	4.90		
9-10	19.00	19.00	15.00	13.00	11.00	9.30	8.40	6.00	5.30		
9-11	21.00	17.00	13.00	12.00	10.00	9.30	7.70	5.40	4.90		
9-12	19.00	15.00	14.00	12.00	11.00	9.30	7.70	5.10	4.60		
9-13	17.00	17.00	14.00	12.00	10.00	7.20	7.20	5.10	4.90		
9-14	17.00	15.00	13.00	12.00	10.00	8.70	7.90	7.00	4.60		
9-15	17.00	14.00	13.00	12.00	10.00	9.30	7.70	7.00	4.90		
9-16	16.00	14.00	13.00	13.00	10.00	12.70	7.70	6.00	4.90		
9-17	20.00	16.00	13.00	13.00	11.00	8.90	7.50	6.60	4.90		
9-18	26.00	18.00	13.00	13.00	11.00	9.20	7.50	6.90	5.10		
9-19	20.00	17.00	14.00	12.00	9.90	9.00	7.30	5.40	5.30		
9-20	21.00	16.00	14.00	14.00	10.00	9.00	7.00	5.40	4.30		
9-21	23.00	21.00	16.00	13.00	9.70	8.40	6.90	5.40	4.70		
9-22	24.00	18.00	16.00	13.00	9.90	8.90	6.90	5.30	3.70		
9-23	20.00	16.00	13.00	13.00	11.00	8.90	6.30	5.00	4.70		
9-24	18.00	17.00	13.00	13.00	11.00	8.20	6.50	5.10	3.70		
9-25	20.00	17.00	16.00	14.00	11.00	8.20	6.90	5.60	4.70		
9-26	21.00	18.00	15.00	13.00	10.00	9.20	7.00	5.30	3.70		
9-27	41.00	21.00	16.00	14.00	9.70	7.40	6.00	5.30	4.00		
9-28	33.00	17.00	15.00	14.00	10.00	7.70	6.90	5.30	3.70		
9-29	26.00	16.00	14.00	13.00	10.00	8.40	9.40	5.50	4.00		
9-30	22.00	20.00	13.00	13.00	10.00	9.20	8.20	5.80	4.00		
9-31	15.70	15.70	12.90	12.90	10.70	9.74	7.98	5.71	5.10		

THE VALUE OF THE INVESTMENT

[illegible][illegible]

Year	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
1910	20,000	16,000	15,000	13,000	9,000	8,000	8,000	7,000	6,000	6,000
1911	19,000	15,000	14,000	12,000	8,000	7,000	7,000	6,000	5,000	5,000
1912	18,000	14,000	13,000	11,000	7,000	6,000	6,000	5,000	4,000	4,000
1913	17,000	13,000	12,000	10,000	6,000	5,000	5,000	4,000	3,000	3,000
1914	16,000	12,000	11,000	9,000	5,000	4,000	4,000	3,000	2,000	2,000
1915	15,000	11,000	10,000	8,000	4,000	3,000	3,000	2,000	1,000	1,000
1916	14,000	10,000	9,000	7,000	3,000	2,000	2,000	1,000	0,000	0,000
1917	13,000	9,000	8,000	6,000	2,000	1,000	1,000	0,000	0,000	0,000
1918	12,000	8,000	7,000	5,000	1,000	0,000	0,000	0,000	0,000	0,000
1919	11,000	7,000	6,000	4,000	0,000	0,000	0,000	0,000	0,000	0,000
1920	10,000	6,000	5,000	3,000	0,000	0,000	0,000	0,000	0,000	0,000
1921	9,000	5,000	4,000	2,000	0,000	0,000	0,000	0,000	0,000	0,000
1922	8,000	4,000	3,000	1,000	0,000	0,000	0,000	0,000	0,000	0,000
1923	7,000	3,000	2,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1924	6,000	2,000	1,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1925	5,000	1,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1926	4,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1927	3,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1928	2,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1929	1,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1930	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1931	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1932	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1933	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1934	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1935	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1936	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1937	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1938	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1939	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1940	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1941	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1942	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1943	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1944	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1945	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1946	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1947	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1948	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1949	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1950	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1951	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1952	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1953	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1954	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1955	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1956	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1957	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1958	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1959	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1960	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1961	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1962	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1963	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1964	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1965	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1966	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1967	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1968	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1969	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1970	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1971	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1972	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1973	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1974	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1975	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1976	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1977	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1978	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1979	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1980	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1981	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1982	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1983	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1984	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1985	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1986	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1987	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1988	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1989	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1991	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1992	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1993	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1994	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1995	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1996	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1997	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1998	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1999	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	10	20	30	40	50	60	70	80	90	LOW
12-1	33.00	22.00	12.00	9.00	7.70	7.00	6.50	6.50	5.40	5.00
12-2	27.00	22.00	10.00	9.40	8.20	7.00	6.50	6.50	5.50	5.10
12-3	20.00	19.00	11.00	9.70	8.00	6.50	6.50	6.50	5.70	4.70
12-4	18.00	18.00	12.00	11.00	8.00	6.50	6.50	6.50	4.50	4.40
12-5	17.00	17.00	12.00	10.00	7.50	6.00	6.00	6.00	4.50	4.40
12-6	16.00	16.00	12.00	9.70	7.00	6.00	6.00	6.00	5.10	5.00
12-7	15.00	15.00	11.00	9.00	6.90	6.00	5.70	5.70	5.00	4.40
12-8	14.00	14.00	11.00	10.00	7.00	6.00	5.10	5.10	4.00	4.00
12-9	14.00	14.00	11.00	9.00	6.50	6.00	5.00	5.00	4.30	3.00
12-10	21.00	14.00	10.00	8.00	7.00	5.50	5.40	5.40	4.00	3.00
12-11	22.00	15.00	14.00	8.00	6.50	5.40	5.00	5.00	4.60	3.00
12-12	22.00	15.00	15.00	8.70	6.50	6.00	5.00	5.00	4.00	3.00
12-13	19.00	14.00	15.00	8.00	6.50	5.40	4.50	4.50	4.00	4.00
12-14	34.00	23.00	14.00	8.50	6.50	5.00	5.00	5.00	4.00	2.00
12-15	31.00	20.00	14.00	9.40	6.50	5.00	4.50	4.50	4.00	2.50
12-16	26.00	22.00	11.00	10.00	6.50	5.30	5.00	5.00	3.00	2.00
12-17	23.00	21.00	10.00	9.00	6.00	5.00	4.10	4.10	3.00	2.00
12-18	22.00	21.00	11.00	8.90	7.00	5.00	4.00	4.00	3.00	2.00
12-19	22.00	17.00	12.00	9.00	6.00	5.10	4.00	4.00	3.00	2.50
12-20	21.00	21.00	14.00	8.00	6.00	5.40	4.00	4.00	2.50	2.30
12-21	24.00	19.00	11.00	7.00	6.00	4.90	4.00	4.00	1.50	1.00
12-22	21.00	18.00	12.00	8.00	6.50	5.00	4.00	4.00	2.00	0.50
12-23	15.00	17.00	12.00	9.00	6.00	5.00	4.30	4.30	3.00	0.50
12-24	17.00	17.00	10.00	8.00	7.00	5.00	4.40	4.40	3.00	2.00
12-25	16.00	15.00	8.00	7.50	6.00	5.00	4.00	4.00	3.20	3.00
12-26	15.00	15.00	8.00	7.00	6.00	5.00	4.00	4.00	3.00	0.60
12-27	13.00	16.00	8.70	7.50	6.00	4.00	3.50	3.50	2.00	2.00
12-28	21.00	16.00	10.00	8.00	6.00	4.20	4.00	4.00	3.00	3.00
12-29	21.00	15.00	11.00	8.40	6.40	5.50	5.00	5.00	4.00	3.50
12-30	19.00	13.00	12.00	8.50	6.00	5.00	5.30	5.30	5.00	4.00
12-31	14.00	16.00	12.00	8.00	6.50	5.71	5.16	5.16	4.69	4.17

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
1-01	53.00	45.00	45.00	42.00	38.00	35.00	33.00	28.00	26.00
1-02	51.00	46.00	44.00	42.00	37.00	35.00	32.00	29.00	25.00
1-03	51.00	45.00	44.00	41.00	37.00	35.00	32.00	25.00	22.00
1-04	50.00	45.00	42.00	41.00	37.00	35.00	33.00	28.00	18.00
1-05	50.00	44.00	41.00	41.00	36.00	35.00	33.00	27.00	20.00
1-06	49.00	45.00	43.00	40.00	36.00	34.00	32.00	27.00	22.00
1-07	50.00	44.00	43.00	41.00	37.00	35.00	32.00	26.00	22.00
1-08	48.00	44.00	42.00	39.00	37.00	34.00	32.00	26.00	20.00
1-09	47.00	43.00	41.00	40.00	36.00	34.00	31.00	27.00	22.00
1-10	47.00	44.00	42.00	40.00	36.00	32.00	32.00	30.00	27.00
1-11	52.00	44.00	41.00	40.00	36.00	33.00	32.00	30.00	18.00
1-12	52.00	45.00	42.00	41.00	37.00	33.00	32.00	27.00	15.00
1-13	58.00	44.00	41.00	39.00	37.00	35.00	31.00	28.00	16.00
1-14	49.00	45.00	40.00	39.00	36.00	34.00	31.00	28.00	18.00
1-15	58.00	44.00	40.00	39.00	36.00	33.00	30.00	28.00	20.00
1-16	70.00	43.00	39.00	38.00	35.00	32.00	30.00	28.00	24.00
1-17	52.00	43.00	40.00	38.00	35.00	32.00	31.00	27.00	23.00
1-18	45.00	41.00	41.00	38.00	35.00	32.00	31.00	26.00	22.00
1-19	47.00	44.00	40.00	38.00	35.00	33.00	28.00	27.00	22.00
1-20	45.00	43.00	40.00	37.00	35.00	33.00	30.00	26.00	21.00
1-21	48.00	43.00	39.00	37.00	35.00	32.00	30.00	25.00	22.00
1-22	52.00	41.00	40.00	37.00	35.00	32.00	30.00	26.00	23.00
1-23	52.00	40.00	38.00	38.00	35.00	32.00	31.00	27.00	25.00
1-24	52.00	40.00	38.00	36.00	35.00	32.00	30.00	29.00	25.00
1-25	47.00	40.00	38.00	37.00	34.00	32.00	31.00	28.00	20.00
1-26	47.00	42.00	39.00	36.00	33.00	32.00	30.00	25.00	22.00
1-27	45.00	42.00	38.00	36.00	34.00	31.00	30.00	25.00	16.00
1-28	43.00	40.00	38.00	36.00	35.00	31.00	30.00	25.00	19.00
1-29	41.00	38.00	38.00	36.00	35.00	32.00	30.00	26.00	22.00
1-30	43.00	39.00	37.00	36.00	34.00	32.00	30.00	27.00	23.00
1-31	43.00	40.00	38.00	37.00	34.00	32.00	31.00	27.00	24.00
MEAN	44.50	41.50	39.30	38.40	35.50	33.50	32.00	29.50	26.10

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 ROCK CREEK NEAR RED LUNGE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
2-01	43.00	40.00	38.00	36.00	34.00	32.00	30.00	30.00	26.00
2-02	44.00	39.00	38.00	36.00	34.00	32.00	30.00	29.00	25.00
2-03	44.00	39.00	38.00	36.00	34.00	32.00	30.00	29.00	25.00
2-04	43.00	40.00	38.00	36.00	34.00	32.00	30.00	29.00	25.00
2-05	42.00	39.00	38.00	35.00	35.00	30.00	30.00	29.00	25.00
2-06	48.00	34.00	37.00	35.00	34.00	31.00	30.00	29.00	25.00
2-07	52.00	34.00	36.00	35.00	33.00	31.00	30.00	29.00	26.00
2-08	52.00	36.00	35.00	35.00	32.00	30.00	30.00	24.00	26.00
2-09	51.00	36.00	35.00	34.00	32.00	30.00	30.00	27.00	25.00
2-10	50.00	37.00	35.00	34.00	32.00	30.00	29.00	27.00	23.00
2-11	50.00	38.00	35.00	34.00	31.00	30.00	28.00	26.00	23.00
2-12	48.00	41.00	36.00	34.00	31.00	30.00	29.00	28.00	24.00
2-13	49.00	40.00	35.00	34.00	32.00	30.00	28.00	28.00	24.00
2-14	50.00	39.00	35.00	34.00	32.00	30.00	28.00	26.00	25.00
2-15	49.00	38.00	36.00	34.00	32.00	30.00	24.00	26.00	21.00
2-16	49.00	39.00	36.00	34.00	32.00	30.00	28.00	27.00	22.00
2-17	47.00	38.00	36.00	34.00	32.00	30.00	30.00	27.00	22.00
2-18	45.00	36.00	36.00	34.00	32.00	30.00	29.00	25.00	23.00
2-19	42.00	38.00	36.00	35.00	32.00	30.00	29.00	25.00	24.00
2-20	42.00	37.00	36.00	34.00	32.00	30.00	30.00	25.00	22.00
2-21	43.00	38.00	35.00	33.00	32.00	30.00	28.00	26.00	18.00
2-22	42.00	37.00	34.00	34.00	32.00	29.00	28.00	26.00	16.00
2-23	42.00	37.00	34.00	33.00	31.00	28.00	27.00	25.00	16.00
2-24	42.00	35.00	34.00	33.00	31.00	28.00	26.00	23.00	20.00
2-25	42.00	36.00	35.00	33.00	30.00	28.00	26.00	23.00	20.00
2-26	43.00	38.00	36.00	33.00	30.00	28.00	26.00	24.00	22.00
2-27	39.00	37.00	36.00	32.00	31.00	29.00	27.00	24.00	23.00
2-28	39.00	38.00	35.00	33.00	30.00	29.00	27.00	25.00	23.00
MEAN	42.40	35.70	35.00	33.90	32.40	30.40	29.40	27.10	25.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 RUCK CREEK NEAR RED LUDGE, MT. DATE PROCESSED--11/23/82
PLUING POINTS FOR LOCATION HYDROGRAPH FOR 30-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
3-01	40.00	37.00	33.00	32.00	30.00	27.00	26.00	24.00	22.00
3-02	40.00	37.00	33.00	32.00	30.00	27.00	25.00	24.00	20.00
3-03	38.00	36.00	33.00	32.00	30.00	28.00	25.00	23.00	20.00
3-04	45.00	35.00	34.00	33.00	30.00	26.00	26.00	22.00	20.00
3-05	41.00	36.00	34.00	33.00	30.00	28.00	26.00	24.00	16.00
3-06	39.00	36.00	34.00	33.00	30.00	28.00	27.00	24.00	18.00
3-07	39.00	36.00	35.00	33.00	30.00	28.00	27.00	26.00	18.00
3-08	44.00	36.00	35.00	33.00	30.00	28.00	27.00	25.00	20.00
3-09	40.00	36.00	35.00	33.00	30.00	28.00	28.00	26.00	21.00
3-10	40.00	36.00	35.00	33.00	30.00	28.00	27.00	26.00	23.00
3-11	39.00	36.00	34.00	32.00	30.00	28.00	27.00	25.00	24.00
3-12	39.00	36.00	34.00	32.00	30.00	27.00	26.00	26.00	22.00
3-13	39.00	37.00	34.00	32.00	30.00	27.00	26.00	25.00	22.00
3-14	39.00	35.00	34.00	32.00	30.00	26.00	26.00	25.00	20.00
3-15	39.00	36.00	33.00	32.00	30.00	28.00	27.00	25.00	22.00
3-16	40.00	35.00	32.00	32.00	30.00	28.00	27.00	25.00	20.00
3-17	56.00	37.00	33.00	31.00	30.00	28.00	27.00	26.00	20.00
3-18	44.00	36.00	33.00	32.00	30.00	29.00	26.00	25.00	20.00
3-19	45.00	36.00	33.00	32.00	30.00	28.00	26.00	25.00	20.00
3-20	43.00	35.00	33.00	32.00	30.00	27.00	26.00	25.00	22.00
3-21	42.00	35.00	33.00	32.00	30.00	28.00	27.00	25.00	24.00
3-22	45.00	35.00	33.00	32.00	30.00	28.00	27.00	26.00	23.00
3-23	45.00	36.00	34.00	32.00	30.00	29.00	27.00	26.00	21.00
3-24	42.00	36.00	33.00	32.00	30.00	27.00	27.00	24.00	22.00
3-25	43.00	36.00	33.00	32.00	30.00	27.00	27.00	25.00	20.00
3-26	42.00	35.00	32.00	32.00	30.00	27.00	27.00	26.00	17.00
3-27	42.00	36.00	33.00	32.00	30.00	26.00	27.00	26.00	20.00
3-28	47.00	36.00	34.00	32.00	30.00	29.00	28.00	25.00	21.00
3-29	102.00	37.00	35.00	34.00	30.00	29.00	29.00	26.00	18.00
3-30	71.00	41.00	36.00	34.00	31.00	30.00	29.00	26.00	18.00
3-31	64.00	40.00	36.00	35.00	32.00	29.00	29.00	27.00	21.00
MEAN	39.70	34.20	33.10	32.50	30.10	28.90	28.10	25.50	24.90

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

Station 66/2095, 77 PUCK CREEK NEAR RED LODGE, MT.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.50	.70	.80	.90	LWM
4-01	52.00	39.00	36.00	34.00	32.00	29.00	26.00	20.00
4-02	42.00	38.00	36.00	34.00	32.00	29.00	25.00	22.00
4-03	43.00	38.00	34.00	33.00	32.00	28.00	24.00	22.00
4-04	47.00	39.00	35.00	33.00	32.00	28.00	25.00	23.00
4-05	58.00	42.00	35.00	34.00	30.00	28.00	26.00	25.00
4-06	70.00	46.00	39.00	36.00	33.00	29.00	28.00	26.00
4-07	66.00	44.00	41.00	36.00	33.00	30.00	29.00	24.00
4-08	66.00	45.00	40.00	36.00	31.00	31.00	28.00	25.00
4-09	69.00	44.00	42.00	37.00	31.00	30.00	29.00	24.00
4-10	80.00	44.00	40.00	34.00	32.00	30.00	29.00	24.00
4-11	80.00	46.00	39.00	38.00	31.00	30.00	30.00	24.00
4-12	76.00	44.00	40.00	37.00	32.00	31.00	30.00	24.00
4-13	82.00	49.00	41.00	38.00	32.00	31.00	30.00	24.00
4-14	84.00	46.00	41.00	40.00	32.00	31.00	30.00	24.00
4-15	96.00	47.00	41.00	39.00	33.00	32.00	30.00	22.00
4-16	108.00	48.00	42.00	40.00	34.00	32.00	30.00	23.00
4-17	110.00	48.00	43.00	41.00	33.00	32.00	30.00	23.00
4-18	117.00	51.00	45.00	45.00	34.00	32.00	29.00	24.00
4-19	128.00	53.00	45.00	41.00	35.00	32.00	29.00	25.00
4-20	149.00	64.00	47.00	41.00	33.00	32.00	29.00	24.00
4-21	151.00	62.00	53.00	41.00	36.00	33.00	30.00	24.00
4-22	144.00	60.00	56.00	45.00	37.00	33.00	30.00	24.00
4-23	142.00	72.00	54.00	44.00	36.00	33.00	31.00	24.00
4-24	158.00	80.00	56.00	45.00	35.00	32.00	29.00	24.00
4-25	154.00	94.00	66.00	55.00	35.00	32.00	30.00	23.00
4-26	142.00	107.00	74.00	51.00	36.00	33.00	32.00	23.00
4-27	128.00	102.00	76.00	56.00	38.00	35.00	31.00	23.00
4-28	121.00	103.00	88.00	56.00	41.00	34.00	30.00	24.00
4-29	150.00	109.00	83.00	56.00	42.00	35.00	32.00	25.00
4-30	243.00	117.00	85.00	60.00	41.00	34.00	32.00	26.00
MEAN	99.20	57.50	48.10	43.40	35.10	33.00	30.90	24.40

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 HUCK CREEK NEAR RED LODGE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
5-01	230.00	132.00	88.00	63.00	53.00	43.00	39.00	35.00	26.00
5-02	250.00	149.00	87.00	72.00	53.00	43.00	40.00	36.00	28.00
5-03	270.00	148.00	90.00	78.00	55.00	48.00	42.00	40.00	29.00
5-04	295.00	164.00	106.00	86.00	62.00	50.00	46.00	40.00	31.00
5-05	260.00	174.00	109.00	95.00	70.00	54.00	48.00	41.00	33.00
5-06	281.00	174.00	129.00	111.00	82.00	59.00	50.00	41.00	32.00
5-07	355.00	230.00	160.00	111.00	87.00	60.00	52.00	40.00	32.00
5-08	500.00	237.00	151.00	121.00	85.00	66.00	52.00	45.00	32.00
5-09	628.00	249.00	157.00	149.00	90.00	65.00	59.00	46.00	32.00
5-10	548.00	294.00	189.00	154.00	92.00	66.00	62.00	49.00	33.00
5-11	412.00	267.00	213.00	160.00	119.00	66.00	61.00	53.00	36.00
5-12	345.00	262.00	218.00	192.00	129.00	75.00	60.00	52.00	41.00
5-13	310.00	274.00	243.00	192.00	113.00	85.00	59.00	52.00	46.00
5-14	436.00	322.00	227.00	187.00	117.00	85.00	73.00	54.00	47.00
5-15	590.00	302.00	211.00	178.00	131.00	97.00	74.00	59.00	55.00
5-16	628.00	290.00	234.00	192.00	152.00	102.00	85.00	74.00	56.00
5-17	572.00	306.00	254.00	213.00	150.00	125.00	100.00	78.00	52.00
5-18	599.00	340.00	302.00	254.00	169.00	125.00	102.00	79.00	55.00
5-19	595.00	416.00	314.00	298.00	180.00	129.00	106.00	82.00	55.00
5-20	860.00	584.00	365.00	290.00	205.00	131.00	104.00	91.00	61.00
5-21	1140.00	604.00	448.00	286.00	249.00	144.00	96.00	90.00	79.00
5-22	1350.00	572.00	425.00	350.00	258.00	162.00	125.00	93.00	88.00
5-23	1350.00	554.00	436.00	400.00	240.00	175.00	138.00	96.00	85.00
5-24	1070.00	626.00	530.00	430.00	242.00	162.00	151.00	100.00	85.00
5-25	955.00	689.00	622.00	496.00	284.00	172.00	146.00	119.00	81.00
5-26	940.00	689.00	577.00	514.00	290.00	185.00	144.00	129.00	86.00
5-27	981.00	778.00	674.00	550.00	360.00	214.00	152.00	133.00	98.00
5-28	1310.00	846.00	660.00	606.00	435.00	221.00	181.00	131.00	111.00
5-29	1080.00	778.00	715.00	646.00	486.00	230.00	174.00	143.00	110.00
5-30	1080.00	830.00	667.00	611.00	442.00	241.00	210.00	162.00	108.00
5-31	1180.00	778.00	686.00	553.00	375.00	293.00	194.00	175.00	116.00
MEAN	460.00	345.00	311.00	274.00	221.00	143.00	123.00	109.00	87.60

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 ROCK CREEK NEAR RED LODGE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
6-01	1140.00	804.00	666.00	576.00	388.00	292.00	222.00	183.00	127.00
6-02	1120.00	860.00	693.00	576.00	370.00	305.00	235.00	177.00	148.00
6-03	1250.00	1050.00	733.00	576.00	435.00	310.00	284.00	206.00	144.00
6-04	2070.00	1670.00	765.00	589.00	432.00	363.00	308.00	215.00	136.00
6-05	2370.00	1130.00	743.00	590.00	485.00	390.00	359.00	266.00	136.00
6-06	1950.00	964.00	828.00	674.00	576.00	430.00	345.00	260.00	138.00
6-07	1940.00	1120.00	835.00	654.00	595.00	419.00	342.00	230.00	191.00
6-08	1680.00	1130.00	916.00	722.00	563.00	374.00	333.00	240.00	165.00
6-09	2000.00	1140.00	912.00	771.00	546.00	408.00	292.00	253.00	185.00
6-10	1620.00	1160.00	930.00	759.00	492.00	432.00	380.00	256.00	200.00
6-11	1160.00	1060.00	849.00	674.00	542.00	431.00	377.00	340.00	192.00
6-12	1110.00	1020.00	758.00	702.00	605.00	470.00	405.00	315.00	197.00
6-13	1230.00	962.00	865.00	813.00	604.00	441.00	414.00	315.00	228.00
6-14	1120.00	1080.00	825.00	600.00	562.00	488.00	412.00	316.00	266.00
6-15	1330.00	1110.00	978.00	749.00	580.00	478.00	420.00	310.00	276.00
6-16	1490.00	1050.00	882.00	758.00	576.00	490.00	404.00	312.00	281.00
6-17	1330.00	1020.00	880.00	782.00	546.00	472.00	426.00	314.00	262.00
6-18	1420.00	986.00	870.00	786.00	599.00	440.00	386.00	330.00	237.00
6-19	1530.00	1060.00	877.00	765.00	608.00	443.00	409.00	345.00	228.00
6-20	1580.00	1150.00	948.00	822.00	608.00	491.00	432.00	350.00	262.00
6-21	1460.00	1220.00	1010.00	880.00	625.00	492.00	408.00	386.00	255.00
6-22	1670.00	1170.00	1080.00	890.00	641.00	514.00	440.00	381.00	252.00
6-23	1520.00	1280.00	978.00	772.00	686.00	518.00	430.00	381.00	270.00
6-24	1360.00	1220.00	960.00	817.00	635.00	511.00	448.00	372.00	277.00
6-25	1420.00	1260.00	902.00	814.00	556.00	494.00	437.00	350.00	281.00
6-26	1260.00	1160.00	956.00	860.00	570.00	436.00	382.00	348.00	281.00
6-27	1230.00	1120.00	960.00	905.00	625.00	416.00	403.00	350.00	281.00
6-28	1340.00	988.00	874.00	776.00	615.00	431.00	400.00	350.00	259.00
6-29	1190.00	1000.00	821.00	744.00	583.00	462.00	388.00	360.00	241.00
6-30	1590.00	1030.00	863.00	744.00	532.00	433.00	360.00	345.00	225.00
MEAN	1130.00	898.00	822.00	729.00	619.00	487.00	444.00	409.00	327.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT. DATE PROCESSED--11/23/82

PLUETING PUNITS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	.10	.20	.30	.50	.70	.80	.90	LOW
7-01	1600.00	1090.00	779.00	532.00	406.00	350.00	308.00	203.00
7-02	1700.00	962.00	754.00	544.00	473.00	405.00	288.00	200.00
7-03	1690.00	891.00	703.00	562.00	492.00	470.00	297.00	235.00
7-04	1610.00	858.00	710.00	570.00	494.00	410.00	320.00	279.00
7-05	1610.00	860.00	710.00	538.00	488.00	433.00	335.00	262.00
7-06	1580.00	898.00	690.00	548.00	494.00	453.00	365.00	234.00
7-07	1480.00	955.00	721.00	573.00	511.00	455.00	340.00	238.00
7-08	1440.00	978.00	687.00	554.00	492.00	425.00	302.00	228.00
7-09	1440.00	918.00	635.00	555.00	479.00	412.00	308.00	222.00
7-10	1270.00	885.00	662.00	563.00	470.00	375.00	315.00	212.00
7-11	1130.00	865.00	655.00	572.00	462.00	420.00	306.00	194.00
7-12	1030.00	875.00	615.00	566.00	457.00	416.00	308.00	183.00
7-13	1040.00	842.00	615.00	560.00	448.00	426.00	320.00	194.00
7-14	1100.00	818.00	604.00	563.00	448.00	391.00	325.00	186.00
7-15	1130.00	818.00	615.00	540.00	431.00	365.00	308.00	180.00
7-16	1160.00	796.00	620.00	542.00	418.00	375.00	300.00	180.00
7-17	1100.00	796.00	625.00	524.00	406.00	375.00	300.00	183.00
7-18	996.00	799.00	604.00	490.00	394.00	366.00	297.00	191.00
7-19	1030.00	850.00	599.00	491.00	386.00	357.00	302.00	200.00
7-20	1140.00	854.00	590.00	452.00	379.00	360.00	297.00	203.00
7-21	1160.00	842.00	570.00	464.00	370.00	354.00	292.00	209.00
7-22	930.00	785.00	548.00	442.00	376.00	345.00	274.00	231.00
7-23	946.00	750.00	516.00	442.00	360.00	340.00	279.00	231.00
7-24	918.00	708.00	500.00	431.00	359.00	339.00	271.00	241.00
7-25	904.00	687.00	491.00	413.00	362.00	337.00	275.00	245.00
7-26	904.00	680.00	497.00	414.00	355.00	337.00	262.00	237.00
7-27	904.00	648.00	476.00	405.00	337.00	315.00	258.00	241.00
7-28	890.00	641.00	484.00	396.00	320.00	306.00	262.00	233.00
7-29	842.00	632.00	461.00	375.00	320.00	295.00	258.00	226.00
7-30	832.00	628.00	440.00	375.00	317.00	295.00	250.00	212.00
7-31	734.00	602.00	426.00	372.00	310.00	285.00	249.00	206.00
MEAN	1090.00	771.00	583.00	491.00	426.00	387.00	302.00	224.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	LUM
8-01	722.00	467.00	420.00	356.00	302.00	278.00	249.00	197.00		
8-02	818.00	440.00	418.00	350.00	302.00	274.00	246.00	188.00		
8-03	782.00	434.00	410.00	340.00	286.00	262.00	246.00	186.00		
8-04	744.00	428.00	378.00	349.00	284.00	275.00	238.00	190.00		
8-05	732.00	420.00	375.00	325.00	275.00	258.00	235.00	190.00		
8-06	721.00	399.00	362.00	306.00	275.00	246.00	235.00	198.00		
8-07	618.00	380.00	359.00	298.00	270.00	238.00	226.00	198.00		
8-08	600.00	380.00	350.00	284.00	262.00	238.00	223.00	178.00		
8-09	550.00	366.00	328.00	289.00	251.00	245.00	209.00	184.00		
8-10	499.00	340.00	330.00	285.00	252.00	242.00	200.00	190.00		
8-11	474.00	330.00	320.00	270.00	246.00	238.00	197.00	172.00		
8-12	455.00	320.00	298.00	271.00	246.00	230.00	198.00	163.00		
8-13	504.00	316.00	306.00	264.00	246.00	227.00	188.00	160.00		
8-14	479.00	312.00	294.00	258.00	241.00	227.00	188.00	154.00		
8-15	434.00	314.00	290.00	250.00	231.00	220.00	190.00	144.00		
8-16	400.00	305.00	290.00	242.00	230.00	216.00	202.00	147.00		
8-17	406.00	333.00	288.00	245.00	227.00	212.00	145.00	140.00		
8-18	364.00	324.00	281.00	241.00	217.00	210.00	188.00	134.00		
8-19	358.00	326.00	270.00	242.00	223.00	204.00	180.00	130.00		
8-20	364.00	320.00	288.00	245.00	214.00	207.00	182.00	130.00		
8-21	376.00	312.00	270.00	234.00	216.00	197.00	175.00	137.00		
8-22	420.00	289.00	266.00	241.00	214.00	194.00	168.00	132.00		
8-23	425.00	278.00	258.00	234.00	208.00	194.00	160.00	132.00		
8-24	392.00	271.00	254.00	227.00	197.00	183.00	155.00	140.00		
8-25	376.00	266.00	255.00	223.00	187.00	177.00	142.00	140.00		
8-26	332.00	254.00	245.00	217.00	182.00	172.00	152.00	140.00		
8-27	288.00	246.00	238.00	217.00	185.00	172.00	145.00	137.00		
8-28	274.00	266.00	230.00	205.00	178.00	171.00	141.00	126.00		
8-29	335.00	243.00	226.00	197.00	175.00	170.00	142.00	120.00		
8-30	520.00	239.00	222.00	203.00	175.00	164.00	137.00	118.00		
8-31	430.00	236.00	215.00	197.00	168.00	162.00	139.00	120.00		
MEAN	427.00	306.00	291.00	267.00	237.00	225.00	201.00	158.00		

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

STATION 06/2695/00 ROCK CREEK NEAR RED LODGE, MT.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
9-01	395.00	262.00	227.00	209.00	188.00	165.00	160.00	152.00	114.00
9-02	350.00	254.00	220.00	197.00	187.00	175.00	157.00	144.00	106.00
9-03	375.00	246.00	223.00	207.00	184.00	167.00	152.00	138.00	104.00
9-04	345.00	227.00	216.00	202.00	182.00	164.00	150.00	131.00	102.00
9-05	314.00	227.00	206.00	203.00	182.00	159.00	150.00	130.00	102.00
9-06	294.00	234.00	210.00	194.00	172.00	156.00	144.00	128.00	102.00
9-07	298.00	241.00	204.00	186.00	172.00	150.00	138.00	124.00	104.00
9-08	332.00	230.00	202.00	188.00	169.00	145.00	133.00	122.00	104.00
9-09	278.00	218.00	198.00	186.00	166.00	143.00	132.00	115.00	102.00
9-10	274.00	225.00	189.00	178.00	161.00	141.00	133.00	111.00	95.00
9-11	270.00	220.00	190.00	174.00	160.00	141.00	127.00	113.00	95.00
9-12	270.00	235.00	180.00	169.00	160.00	138.00	128.00	109.00	94.00
9-13	250.00	220.00	180.00	172.00	153.00	135.00	120.00	104.00	92.00
9-14	255.00	206.00	182.00	166.00	146.00	131.00	120.00	102.00	91.00
9-15	236.00	199.00	180.00	160.00	144.00	125.00	111.00	100.00	92.00
9-16	241.00	203.00	177.00	156.00	138.00	122.00	111.00	96.00	80.00
9-17	227.00	192.00	165.00	152.00	134.00	122.00	111.00	98.00	77.00
9-18	213.00	187.00	149.00	149.00	136.00	121.00	115.00	92.00	75.00
9-19	294.00	180.00	168.00	145.00	134.00	119.00	107.00	90.00	72.00
9-20	266.00	183.00	150.00	143.00	131.00	111.00	106.00	86.00	69.00
9-21	258.00	190.00	160.00	138.00	129.00	108.00	104.00	85.00	70.00
9-22	237.00	178.00	151.00	133.00	124.00	106.00	102.00	85.00	69.00
9-23	228.00	168.00	149.00	135.00	121.00	102.00	100.00	85.00	66.00
9-24	213.00	160.00	140.00	131.00	120.00	105.00	100.00	84.00	64.00
9-25	201.00	150.00	136.00	132.00	118.00	102.00	96.00	81.00	65.00
9-26	191.00	143.00	137.00	128.00	115.00	98.00	94.00	78.00	64.00
9-27	182.00	141.00	131.00	125.00	117.00	96.00	92.00	77.00	65.00
9-28	173.00	143.00	129.00	123.00	112.00	96.00	88.00	75.00	60.00
9-29	166.00	139.00	127.00	119.00	107.00	92.00	86.00	75.00	60.00
9-30	160.00	137.00	129.00	119.00	106.00	92.00	85.00	72.00	59.00
MEAN	219.00	195.00	176.00	166.00	146.00	130.00	124.00	111.00	88.00
FRSTV= 1.00000E+01		XZER(1)= 0.00000E+00		YZER(1)= 0.00000E+00		0	INTEG=	0	
NPTS= 365		INC= 1		LINEYP=		0	INTEG=	0	
1.00000E+00	1.49280E+01			LINEYP=		0	INTEG=	0	
NPTS= 365		INC= 1		LINEYP=		0	INTEG=	0	
1.00000E+00	1.49280E+01			LINEYP=		0	INTEG=	0	
NPTS= 365		INC= 1		LINEYP=		0	INTEG=	0	
1.00000E+00	1.49280E+01			LINEYP=		0	INTEG=	0	
NPTS= 365		INC= 1		LINEYP=		0	INTEG=	0	
1.00000E+00	1.49280E+01			LINEYP=		0	INTEG=	0	
NPTS= 365		INC= 1		LINEYP=		0	INTEG=	0	
1.00000E+00	1.49280E+01			LINEYP=		0	INTEG=	0	

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT. DATE PROCESSED 11/23/62
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	10	10	20	30	40	50	60	70	80	90	LUM
10-01	153.00	136.00	128.00	113.00	101.00	86.00	81.00	71.00	59.00		
10-02	150.00	133.00	121.00	111.00	100.00	84.00	84.00	71.00	57.00		
10-03	165.00	132.00	126.00	111.00	96.00	84.00	81.00	68.00	55.00		
10-04	155.00	128.00	124.00	109.00	97.00	82.00	76.00	70.00	54.00		
10-05	158.00	127.00	115.00	110.00	97.00	82.00	77.00	68.00	52.00		
10-06	170.00	124.00	113.00	111.00	91.00	81.00	77.00	68.00	50.00		
10-07	150.00	121.00	117.00	108.00	88.00	81.00	75.00	68.00	51.00		
10-08	145.00	120.00	114.00	105.00	84.00	81.00	73.00	68.00	49.00		
10-09	141.00	120.00	113.00	105.00	90.00	78.00	73.00	69.00	49.00		
10-10	137.00	121.00	111.00	103.00	89.00	78.00	72.00	69.00	46.00		
10-11	135.00	122.00	111.00	101.00	87.00	76.00	72.00	68.00	50.00		
10-12	137.00	117.00	108.00	100.00	86.00	76.00	72.00	67.00	47.00		
10-13	131.00	115.00	106.00	106.00	85.00	73.00	71.00	65.00	49.00		
10-14	129.00	115.00	106.00	100.00	84.00	73.00	69.00	66.00	47.00		
10-15	129.00	117.00	106.00	106.00	81.00	74.00	70.00	66.00	48.00		
10-16	123.00	113.00	105.00	98.00	79.00	74.00	69.00	68.00	44.00		
10-17	121.00	112.00	100.00	95.00	79.00	70.00	68.00	63.00	48.00		
10-18	117.00	111.00	98.00	95.00	80.00	72.00	67.00	66.00	47.00		
10-19	111.00	107.00	100.00	92.00	78.00	72.00	66.00	64.00	49.00		
10-20	109.00	107.00	102.00	90.00	76.00	71.00	68.00	63.00	50.00		
10-21	107.00	105.00	96.00	90.00	77.00	70.00	65.00	62.00	51.00		
10-22	107.00	103.00	96.00	86.00	75.00	68.00	65.00	60.00	51.00		
10-23	105.00	100.00	92.00	85.00	73.00	69.00	65.00	59.00	50.00		
10-24	101.00	98.00	91.00	83.00	72.00	70.00	64.00	59.00	50.00		
10-25	103.00	98.00	91.00	83.00	71.00	65.00	63.00	58.00	50.00		
10-26	98.00	96.00	86.00	80.00	69.00	64.00	62.00	57.00	49.00		
10-27	96.00	92.00	84.00	77.00	68.00	65.00	62.00	57.00	51.00		
10-28	101.00	88.00	83.00	77.00	68.00	64.00	62.00	56.00	48.00		
10-29	96.00	86.00	83.00	77.00	68.00	62.00	61.00	56.00	49.00		
10-30	96.00	87.00	84.00	73.00	67.00	62.00	57.00	54.00	49.00		
10-31	96.00	86.00	84.00	77.00	68.00	64.00	59.00	53.00	46.00		
MEAN	124.00	108.00	103.00	95.30	82.70	73.40	70.10	67.20	50.10		

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

STATION 06/2065, 00 ROCK CREEK NEAR RED LODGE, MT.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
11-01	94.00	85.00	86.00	74.00	65.00	59.00	57.00	50.00	42.00
11-02	91.00	82.00	80.00	74.00	65.00	59.00	57.00	47.00	45.00
11-03	91.00	80.00	77.00	71.00	64.00	59.00	56.00	49.00	46.00
11-04	90.00	80.00	77.00	72.00	62.00	58.00	56.00	53.00	44.00
11-05	88.00	82.00	78.00	70.00	63.00	58.00	55.00	50.00	43.00
11-06	85.00	80.00	77.00	72.00	61.00	59.00	54.00	48.00	44.00
11-07	90.00	82.00	78.00	68.00	60.00	59.00	53.00	47.00	46.00
11-08	124.00	85.00	72.00	69.00	59.00	55.00	53.00	45.00	38.00
11-09	95.00	85.00	75.00	68.00	60.00	56.00	53.00	50.00	52.00
11-10	91.00	82.00	75.00	68.00	60.00	56.00	53.00	51.00	41.00
11-11	91.00	80.00	72.00	64.00	56.00	52.00	50.00	47.00	43.00
11-12	96.00	77.00	69.00	67.00	59.00	55.00	48.00	42.00	35.00
11-13	90.00	74.00	69.00	65.00	58.00	53.00	46.00	41.00	34.00
11-14	83.00	73.00	69.00	66.00	56.00	52.00	48.00	42.00	32.00
11-15	79.00	74.00	67.00	64.00	58.00	50.00	44.00	40.00	35.00
11-16	77.00	72.00	66.00	62.00	56.00	49.00	44.00	41.00	38.00
11-17	77.00	72.00	67.00	59.00	54.00	48.00	45.00	44.00	37.00
11-18	76.00	72.00	66.00	60.00	56.00	48.00	48.00	43.00	36.00
11-19	76.00	72.00	64.00	62.00	55.00	46.00	46.00	41.00	31.00
11-20	72.00	69.00	64.00	59.00	54.00	49.00	45.00	41.00	28.00
11-21	72.00	67.00	64.00	58.00	52.00	47.00	44.00	38.00	30.00
11-22	75.00	67.00	66.00	60.00	52.00	46.00	45.00	40.00	33.00
11-23	75.00	66.00	62.00	59.00	54.00	47.00	45.00	41.00	36.00
11-24	76.00	68.00	65.00	53.00	54.00	47.00	44.00	42.00	36.00
11-25	73.00	68.00	62.00	56.00	52.00	46.00	43.00	41.00	39.00
11-26	76.00	66.00	59.00	55.00	52.00	45.00	42.00	40.00	36.00
11-27	76.00	63.00	58.00	55.00	46.00	45.00	42.00	39.00	30.00
11-28	76.00	64.00	58.00	54.00	50.00	44.00	42.00	39.00	29.00
11-29	73.00	64.00	58.00	53.00	50.00	44.00	42.00	37.00	14.00
11-30	73.00	64.00	58.00	54.00	48.00	45.00	44.00	38.00	25.00
MEAN	77.70	70.60	69.40	64.10	56.30	51.40	49.60	46.50	34.76

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095700 JACK TOWER NEAR RED LODGE, MT. DATE PROCESSED--11/23/82
PLUING PLOTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
12-01	72.00	60.00	58.00	53.00	49.00	45.00	43.00	39.00	30.00
12-02	70.00	62.00	55.00	52.00	46.00	44.00	42.00	39.00	28.00
12-03	68.00	63.00	58.00	53.00	46.00	44.00	42.00	36.00	30.00
12-04	70.00	60.00	57.00	55.00	46.00	42.00	41.00	35.00	29.00
12-05	68.00	59.00	56.00	51.00	45.00	40.00	40.00	35.00	28.00
12-06	65.00	58.00	54.00	51.00	44.00	41.00	38.00	35.00	29.00
12-07	62.00	59.00	55.00	52.00	43.00	40.00	37.00	34.00	28.00
12-08	59.00	54.00	54.00	52.00	42.00	40.00	38.00	33.00	28.00
12-09	60.00	56.00	52.00	51.00	43.00	40.00	38.00	35.00	28.00
12-10	61.00	55.00	55.00	50.00	44.00	40.00	39.00	36.00	28.00
12-11	69.00	56.00	55.00	50.00	44.00	40.00	39.00	36.00	27.00
12-12	60.00	54.00	52.00	49.00	43.00	40.00	39.00	32.00	27.00
12-13	60.00	52.00	50.00	48.00	44.00	40.00	38.00	34.00	26.00
12-14	58.00	52.00	49.00	48.00	44.00	40.00	38.00	36.00	26.00
12-15	62.00	54.00	50.00	49.00	44.00	40.00	38.00	36.00	26.00
12-16	58.00	54.00	50.00	48.00	42.00	41.00	38.00	34.00	26.00
12-17	58.00	51.00	49.00	48.00	42.00	40.00	38.00	34.00	27.00
12-18	56.00	50.00	47.00	45.00	42.00	38.00	37.00	35.00	27.00
12-19	55.00	50.00	47.00	44.00	40.00	37.00	35.00	34.00	25.00
12-20	58.00	51.00	47.00	44.00	41.00	37.00	37.00	35.00	25.00
12-21	57.00	51.00	47.00	45.00	42.00	38.00	37.00	33.00	25.00
12-22	67.00	50.00	47.00	46.00	40.00	38.00	38.00	33.00	24.00
12-23	70.00	50.00	47.00	45.00	40.00	38.00	36.00	30.00	20.00
12-24	60.00	50.00	46.00	45.00	40.00	37.00	33.00	28.00	18.00
12-25	55.00	50.00	47.00	45.00	42.00	36.00	34.00	28.00	20.00
12-26	54.00	50.00	45.00	44.00	40.00	36.00	34.00	29.00	21.00
12-27	59.00	50.00	45.00	43.00	40.00	37.00	32.00	31.00	18.00
12-28	54.00	48.00	44.00	42.00	40.00	36.00	32.00	30.00	22.00
12-29	53.00	49.00	45.00	42.00	40.00	36.00	34.00	30.00	25.00
12-30	51.00	48.00	44.00	42.00	40.00	36.00	34.00	30.00	26.00
12-31	53.00	46.00	44.00	43.00	40.00	35.00	35.00	30.00	27.00
MEAN	56.10	49.60	47.90	45.80	43.30	41.30	38.80	35.20	26.60

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 96/2078/00 BLUEWATER CREEK NEAR BRIDGES, MI. DATE PROCESSED--11/23/82

PLUING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
1-01	32.00	32.00	31.00	31.00	30.00	27.00	27.00	26.00	26.00
1-02	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-03	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-04	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-05	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-06	31.00	31.00	30.00	30.00	30.00	27.00	27.00	27.00	27.00
1-07	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-08	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-09	32.00	32.00	31.00	31.00	30.00	27.00	27.00	26.00	26.00
1-10	31.00	31.00	31.00	31.00	30.00	27.00	27.00	26.00	26.00
1-11	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-12	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-13	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-14	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-15	31.00	31.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
1-16	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
1-17	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-18	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-19	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-20	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-21	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-22	32.00	32.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-23	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-24	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00
1-25	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-26	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00
1-27	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
1-28	31.00	31.00	31.00	30.00	30.00	27.00	27.00	27.00	27.00
1-29	31.00	31.00	31.00	30.00	30.00	27.00	27.00	27.00	27.00
1-30	31.00	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
1-31	31.00	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
MEAN	30.70	30.70	30.70	30.40	30.00	27.60	27.20	26.20	26.20

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 MLJEWATER CREEK NEAR BRIDGER, MT. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.16	.20	.30	.50	.70	.80	.90	LWM
2-01	31.00	31.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
2-02	32.00	32.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
2-03	32.00	32.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
2-04	32.00	32.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
2-05	31.00	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
2-06	31.00	31.00	31.00	31.00	30.00	26.00	27.00	27.00	27.00
2-07	31.00	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
2-08	31.00	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
2-09	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
2-10	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
2-11	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
2-12	31.00	31.00	30.00	30.00	30.00	28.00	27.00	27.00	27.00
2-13	31.00	31.00	30.00	30.00	30.00	28.00	27.00	27.00	27.00
2-14	32.00	32.00	30.00	30.00	30.00	27.00	27.00	27.00	27.00
2-15	32.00	32.00	31.00	30.00	30.00	27.00	27.00	27.00	27.00
2-16	32.00	32.00	31.00	30.00	30.00	27.00	27.00	27.00	27.00
2-17	32.00	32.00	31.00	30.00	30.00	27.00	27.00	27.00	27.00
2-18	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
2-19	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
2-20	31.00	31.00	30.00	30.00	30.00	28.00	27.00	27.00	27.00
2-21	31.00	31.00	30.00	30.00	30.00	28.00	27.00	27.00	27.00
2-22	31.00	31.00	30.00	30.00	30.00	28.00	27.00	27.00	27.00
2-23	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
2-24	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
2-25	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
2-26	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
2-27	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
2-28	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00	27.00
MEAN	31.10	31.10	30.50	30.20	29.90	27.70	27.00	26.90	26.90

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 BLUEWATER CREEK NEAR BRIDGER, MI.
DATE PROCESSED--11/23/82
PLOTING POINTS FOR FURMAN HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
3-01	31.00	31.00	31.00	30.00	28.00	25.00	27.00	27.00	27.00
3-02	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00	27.00
3-03	31.00	31.00	31.00	31.00	28.00	28.00	27.00	27.00	27.00
3-04	32.00	32.00	31.00	31.00	28.00	28.00	27.00	27.00	27.00
3-05	31.00	31.00	31.00	30.00	25.00	26.00	27.00	27.00	27.00
3-06	31.00	31.00	30.00	30.00	25.00	28.00	27.00	27.00	27.00
3-07	31.00	31.00	30.00	30.00	28.00	28.00	27.00	27.00	27.00
3-08	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
3-09	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
3-10	31.00	31.00	30.00	30.00	29.00	25.00	27.00	27.00	27.00
3-11	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
3-12	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-13	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-14	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-15	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
3-16	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-17	32.00	32.00	31.00	30.00	29.00	28.00	28.00	27.00	27.00
3-18	32.00	32.00	31.00	30.00	30.00	28.00	28.00	27.00	27.00
3-19	32.00	32.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
3-20	32.00	32.00	31.00	30.00	29.00	28.00	28.00	27.00	27.00
3-21	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-22	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00	27.00
3-23	32.00	32.00	31.00	30.00	29.00	28.00	27.00	26.00	26.00
3-24	32.00	32.00	31.00	30.00	29.00	28.00	27.00	26.00	26.00
3-25	32.00	32.00	31.00	30.00	29.00	28.00	27.00	26.00	26.00
3-26	32.00	32.00	32.00	31.00	29.00	28.00	27.00	26.00	26.00
3-27	32.00	32.00	32.00	31.00	29.00	28.00	27.00	26.00	26.00
3-28	32.00	32.00	31.00	31.00	29.00	28.00	27.00	26.00	26.00
3-29	32.00	32.00	31.00	30.00	28.00	28.00	27.00	26.00	26.00
3-30	34.00	34.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
3-31	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
MEAN	31.10	31.10	31.00	30.10	28.80	27.50	27.40	27.30	27.30

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

STATION 97207000 BLUMMATH CREEK NEAR HELLBURN, MI.

PLOTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
4-01	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-02	32.00	32.00	31.00	30.00	29.00	28.00	28.00	27.00	27.00
4-03	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-04	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-05	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-06	32.00	32.00	31.00	30.00	28.00	28.00	28.00	26.00	26.00
4-07	32.00	32.00	31.00	30.00	28.00	28.00	28.00	26.00	26.00
4-08	32.00	32.00	31.00	31.00	28.00	28.00	27.00	26.00	26.00
4-09	32.00	32.00	32.00	31.00	28.00	28.00	27.00	26.00	26.00
4-10	32.00	32.00	32.00	30.00	28.00	28.00	28.00	26.00	26.00
4-11	32.00	32.00	32.00	30.00	28.00	28.00	27.00	26.00	26.00
4-12	32.00	32.00	32.00	31.00	28.00	28.00	27.00	26.00	26.00
4-13	32.00	32.00	31.00	30.00	28.00	28.00	27.00	26.00	26.00
4-14	32.00	32.00	31.00	30.00	28.00	28.00	27.00	26.00	26.00
4-15	32.00	32.00	31.00	30.00	28.00	28.00	28.00	26.00	26.00
4-16	32.00	32.00	30.00	30.00	29.00	28.00	28.00	26.00	26.00
4-17	32.00	32.00	30.00	30.00	28.00	28.00	28.00	26.00	26.00
4-18	32.00	32.00	30.00	30.00	29.00	28.00	28.00	26.00	26.00
4-19	32.00	32.00	30.00	30.00	29.00	28.00	28.00	26.00	26.00
4-20	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-21	32.00	32.00	32.00	30.00	30.00	28.00	28.00	26.00	26.00
4-22	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-23	32.00	32.00	31.00	30.00	28.00	28.00	28.00	26.00	26.00
4-24	32.00	32.00	31.00	30.00	29.00	28.00	28.00	26.00	26.00
4-25	38.00	38.00	32.00	31.00	30.00	28.00	28.00	26.00	26.00
4-26	78.00	78.00	32.00	32.00	30.00	28.00	28.00	26.00	26.00
4-27	35.00	35.00	32.00	31.00	30.00	30.00	28.00	28.00	26.00
4-28	33.00	33.00	33.00	32.00	30.00	30.00	26.00	28.00	26.00
4-29	33.00	33.00	31.00	31.00	30.00	30.00	28.00	26.00	26.00
4-30	33.00	33.00	32.00	31.00	30.00	30.00	28.00	26.00	26.00
MEAN	31.80	31.60	31.00	30.40	29.00	28.50	26.20	28.00	28.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/207M/00 HIGH WATER CREEK NEAR MILDEN, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD RELATED WATER YEARS 1962 AND 1970

DATE	HIGH	1.	.20	.30	.50	.70	.80	.90	LOW
5-01	33.00	33.00	32.00	31.00	30.00	29.00	28.00	28.00	28.00
5-02	33.00	33.00	32.00	32.00	30.00	29.00	28.00	28.00	28.00
5-03	33.00	33.00	33.00	32.00	30.00	28.00	28.00	28.00	28.00
5-04	33.00	33.00	33.00	31.00	30.00	28.00	28.00	28.00	28.00
5-05	33.00	33.00	33.00	31.00	29.00	28.00	28.00	28.00	28.00
5-06	34.00	34.00	33.00	31.00	30.00	29.00	28.00	27.00	27.00
5-07	34.00	34.00	34.00	30.00	29.00	29.00	27.00	27.00	27.00
5-08	36.00	36.00	34.00	30.00	29.00	28.00	27.00	27.00	27.00
5-09	35.00	35.00	35.00	29.00	29.00	28.00	27.00	26.00	26.00
5-10	35.00	35.00	33.00	30.00	29.00	28.00	27.00	26.00	26.00
5-11	40.00	40.00	34.00	33.00	30.00	29.00	27.00	27.00	27.00
5-12	34.00	34.00	32.00	32.00	30.00	28.00	28.00	27.00	27.00
5-13	34.00	34.00	32.00	31.00	29.00	27.00	27.00	27.00	27.00
5-14	34.00	34.00	32.00	30.00	29.00	27.00	27.00	26.00	26.00
5-15	34.00	34.00	32.00	30.00	28.00	27.00	27.00	26.00	26.00
5-16	34.00	34.00	31.00	29.00	29.00	26.00	26.00	26.00	26.00
5-17	33.00	33.00	31.00	29.00	28.00	27.00	26.00	26.00	26.00
5-18	33.00	33.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00
5-19	33.00	33.00	30.00	29.00	28.00	27.00	26.00	26.00	26.00
5-20	34.00	34.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00
5-21	34.00	34.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00
5-22	33.00	33.00	28.00	29.00	28.00	27.00	26.00	26.00	26.00
5-23	33.00	33.00	29.00	28.00	27.00	27.00	26.00	26.00	26.00
5-24	32.00	32.00	29.00	29.00	27.00	26.00	26.00	26.00	26.00
5-25	32.00	32.00	29.00	29.00	27.00	26.00	26.00	26.00	26.00
5-26	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00	26.00
5-27	31.00	31.00	29.00	28.00	27.00	26.00	26.00	26.00	26.00
5-28	31.00	31.00	29.00	28.00	27.00	26.00	26.00	25.00	25.00
5-29	31.00	31.00	28.00	28.00	27.00	26.00	25.00	25.00	25.00
5-30	31.00	31.00	28.00	28.00	27.00	26.00	25.00	25.00	25.00
5-31	31.00	31.00	28.00	28.00	27.00	27.00	25.00	25.00	25.00
MEAN	33.10	33.10	30.20	28.90	28.50	27.90	27.30	26.90	26.90

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

THE MALE: (off) P-I-A-T : H-I-L-E-Y, M!

DATE RECEIVED--11/25/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	1.0	2.0	3.0	5.0	7.0	8.0	9.0	LOW
6-01	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
6-02	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
6-03	30.00	30.00	29.00	28.00	28.00	26.00	25.00	24.00	24.00
6-04	30.00	30.00	28.00	28.00	28.00	26.00	26.00	24.00	24.00
6-05	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
6-06	30.00	30.00	28.00	28.00	27.00	25.00	24.00	24.00	24.00
6-07	30.00	30.00	28.00	28.00	28.00	26.00	24.00	24.00	24.00
6-08	50.00	50.00	30.00	28.00	27.00	27.00	26.00	24.00	24.00
6-09	60.00	60.00	36.00	30.00	28.00	27.00	26.00	24.00	24.00
6-10	32.00	32.00	30.00	30.00	27.00	27.00	25.00	24.00	24.00
6-11	33.00	33.00	32.00	30.00	27.00	27.00	27.00	24.00	24.00
6-12	32.00	32.00	31.00	30.00	27.00	27.00	26.00	25.00	25.00
6-13	31.00	31.00	31.00	30.00	27.00	26.00	26.00	26.00	26.00
6-14	37.00	37.00	31.00	30.00	27.00	26.00	26.00	26.00	26.00
6-15	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
6-16	33.00	33.00	31.00	31.00	30.00	27.00	26.00	26.00	26.00
6-17	31.00	31.00	31.00	30.00	28.00	26.00	26.00	26.00	26.00
6-18	31.00	31.00	31.00	30.00	27.00	26.00	26.00	25.00	25.00
6-19	35.00	35.00	31.00	30.00	27.00	26.00	25.00	25.00	25.00
6-20	31.00	31.00	31.00	30.00	27.00	26.00	26.00	25.00	25.00
6-21	31.00	31.00	30.00	30.00	28.00	26.00	26.00	25.00	25.00
6-22	31.00	31.00	30.00	30.00	27.00	26.00	26.00	26.00	26.00
6-23	31.00	31.00	30.00	30.00	27.00	26.00	26.00	25.00	25.00
6-24	31.00	31.00	31.00	30.00	27.00	26.00	26.00	25.00	25.00
6-25	44.00	44.00	31.00	30.00	26.00	26.00	25.00	24.00	24.00
6-26	64.00	64.00	31.00	30.00	26.00	25.00	25.00	24.00	24.00
6-27	36.00	36.00	31.00	30.00	26.00	25.00	24.00	24.00	24.00
6-28	34.00	34.00	31.00	30.00	25.00	25.00	24.00	24.00	24.00
6-29	84.00	84.00	34.00	31.00	28.00	25.00	25.00	25.00	25.00
6-30	34.00	34.00	30.00	30.00	26.00	25.00	25.00	24.00	24.00
MEAN	31.50	31.50	31.10	30.80	26.90	26.30	26.20	25.90	25.90

STATION 06/2078/00
WOLFWATER LUTER BRAD FLOREN, MI.
DATE PROCESSED--11/23/82
PLOTING POINTS FOR CORALTON HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

STATION 06/2078/00

THE UNIVERSITY OF CHICAGO

DATE PAID 5561-11/25/82

PLOTTING POINTS FOR QUALITY HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN YEARS 1962 AND 1970

DATE	WIGHT	.10	.20	.30	.50	.70	.90	LUK
7-01	34.00	34.00	31.00	30.00	25.00	25.00	25.00	25.00
7-02	35.00	34.00	31.00	30.00	25.00	24.00	25.00	25.00
7-03	38.00	35.00	31.00	30.00	25.00	25.00	24.00	24.00
7-04	35.00	35.00	31.00	29.00	26.00	25.00	25.00	25.00
7-05	32.00	32.00	31.00	29.00	26.00	25.00	24.00	24.00
7-06	32.00	32.00	31.00	29.00	26.00	25.00	23.00	23.00
7-07	34.00	40.00	31.00	29.00	26.00	25.00	25.00	25.00
7-08	34.00	34.00	31.00	30.00	26.00	25.00	24.00	24.00
7-09	35.00	35.00	30.00	30.00	26.00	25.00	24.00	24.00
7-10	32.00	32.00	30.00	28.00	26.00	24.00	24.00	24.00
7-11	32.00	32.00	30.00	27.00	25.00	24.00	24.00	24.00
7-12	32.00	32.00	30.00	27.00	26.00	24.00	24.00	24.00
7-13	32.00	32.00	30.00	28.00	26.00	25.00	25.00	25.00
7-14	32.00	32.00	30.00	28.00	26.00	24.00	25.00	25.00
7-15	31.00	31.00	29.00	28.00	26.00	24.00	24.00	25.00
7-16	32.00	32.00	29.00	28.00	26.00	24.00	24.00	24.00
7-17	31.00	31.00	29.00	28.00	26.00	24.00	22.00	22.00
7-18	30.00	30.00	30.00	27.00	26.00	24.00	22.00	22.00
7-19	30.00	30.00	30.00	26.00	26.00	24.00	22.00	22.00
7-20	30.00	30.00	29.00	26.00	25.00	24.00	22.00	22.00
7-21	30.00	30.00	29.00	26.00	26.00	24.00	23.00	23.00
7-22	30.00	30.00	29.00	26.00	25.00	24.00	23.00	23.00
7-23	29.00	30.00	29.00	27.00	26.00	24.00	23.00	23.00
7-24	29.00	29.00	29.00	27.00	25.00	24.00	22.00	22.00
7-25	33.00	33.00	29.00	26.00	26.00	24.00	23.00	23.00
7-26	30.00	30.00	28.00	26.00	26.00	25.00	24.00	24.00
7-27	30.00	30.00	28.00	26.00	26.00	25.00	24.00	24.00
7-28	30.00	30.00	28.00	26.00	26.00	25.00	24.00	24.00
7-29	29.00	29.00	28.00	26.00	26.00	25.00	24.00	24.00
7-30	29.00	29.00	29.00	28.00	26.00	25.00	24.00	24.00
7-31	29.00	29.00	29.00	29.00	26.00	24.00	23.00	23.00
MEAN	31.50	31.50	29.70	27.60	25.60	24.40	24.10	24.10

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/62

BLUESWATER CREEK NEAR BRIDGE, MI.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.50	.50	.50	.70	.80	.90	LOW
8-01	30.00	30.00	29.00	28.00	26.00	24.00	24.00	24.00	24.00	24.00
8-02	30.00	30.00	29.00	28.00	26.00	25.00	25.00	24.00	24.00	24.00
8-03	29.00	29.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-04	28.00	28.00	27.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-05	27.00	27.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00	24.00
8-06	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-07	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-08	28.00	28.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00	24.00
8-09	28.00	28.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00	24.00
8-10	28.00	28.00	28.00	28.00	26.00	25.00	25.00	24.00	24.00	24.00
8-11	28.00	28.00	28.00	28.00	26.00	25.00	25.00	25.00	24.00	24.00
8-12	28.00	28.00	28.00	27.00	26.00	25.00	25.00	25.00	25.00	25.00
8-13	28.00	28.00	27.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-14	28.00	28.00	27.00	27.00	25.00	25.00	25.00	25.00	24.00	24.00
8-15	28.00	28.00	27.00	27.00	25.00	25.00	25.00	24.00	24.00	24.00
8-16	28.00	28.00	28.00	27.00	25.00	25.00	25.00	25.00	24.00	24.00
8-17	28.00	28.00	27.00	27.00	25.00	24.00	24.00	24.00	24.00	24.00
8-18	28.00	28.00	27.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-19	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-20	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-21	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-22	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00	24.00
8-23	30.00	30.00	28.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-24	29.00	29.00	27.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-25	29.00	29.00	28.00	27.00	26.00	25.00	25.00	25.00	24.00	24.00
8-26	29.00	29.00	28.00	28.00	26.00	25.00	25.00	25.00	24.00	24.00
8-27	29.00	29.00	28.00	28.00	26.00	25.00	25.00	24.00	24.00	24.00
8-28	29.00	29.00	28.00	28.00	26.00	25.00	25.00	24.00	24.00	24.00
8-29	30.00	30.00	28.00	28.00	25.00	25.00	25.00	25.00	25.00	25.00
8-30	30.00	30.00	28.00	28.00	26.00	25.00	25.00	25.00	25.00	25.00
8-31	30.00	30.00	28.00	28.00	26.00	25.00	25.00	25.00	25.00	25.00
MEAN	27.90	27.90	27.60	27.00	25.50	24.90	24.80	24.70	24.70	24.70

DATE PROCESSED--11/23/82

PLUTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
9-01	31.00	31.00	29.00	28.00	26.00	25.00	25.00	24.00	24.00
9-02	31.00	31.00	29.00	29.00	25.00	25.00	25.00	24.00	24.00
9-03	59.00	59.00	32.00	30.00	27.00	25.00	25.00	24.00	24.00
9-04	32.00	32.00	32.00	29.00	27.00	25.00	25.00	24.00	24.00
9-05	32.00	32.00	32.00	29.00	26.00	25.00	25.00	25.00	25.00
9-06	31.00	31.00	30.00	29.00	27.00	25.00	25.00	25.00	25.00
9-07	31.00	31.00	29.00	29.00	28.00	26.00	25.00	25.00	25.00
9-08	32.00	32.00	30.00	29.00	28.00	26.00	25.00	25.00	25.00
9-09	32.00	32.00	30.00	29.00	27.00	25.00	25.00	24.00	24.00
9-10	31.00	31.00	30.00	29.00	26.00	26.00	25.00	24.00	24.00
9-11	32.00	32.00	29.00	29.00	26.00	26.00	25.00	25.00	25.00
9-12	32.00	32.00	30.00	29.00	26.00	26.00	25.00	25.00	25.00
9-13	32.00	32.00	31.00	29.00	27.00	26.00	26.00	25.00	25.00
9-14	31.00	31.00	29.00	28.00	27.00	26.00	26.00	25.00	25.00
9-15	31.00	31.00	29.00	28.00	25.00	26.00	26.00	26.00	26.00
9-16	30.00	30.00	30.00	28.00	26.00	26.00	26.00	26.00	26.00
9-17	30.00	30.00	30.00	28.00	26.00	27.00	27.00	26.00	26.00
9-18	30.00	30.00	29.00	28.00	26.00	27.00	27.00	26.00	26.00
9-19	30.00	30.00	29.00	29.00	26.00	27.00	27.00	26.00	26.00
9-20	30.00	30.00	30.00	30.00	28.00	27.00	27.00	26.00	26.00
9-21	31.00	31.00	31.00	30.00	26.00	27.00	27.00	26.00	26.00
9-22	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
9-23	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
9-24	32.00	32.00	30.00	29.00	29.00	27.00	27.00	26.00	26.00
9-25	32.00	32.00	30.00	29.00	28.00	27.00	27.00	26.00	26.00
9-26	32.00	32.00	30.00	30.00	26.00	27.00	27.00	26.00	26.00
9-27	32.00	32.00	30.00	30.00	26.00	27.00	27.00	26.00	26.00
9-28	32.00	32.00	30.00	29.00	26.00	27.00	26.00	26.00	26.00
9-29	32.00	32.00	30.00	29.00	26.00	27.00	26.00	25.00	25.00
9-30	32.00	32.00	30.00	29.00	26.00	27.00	26.00	26.00	26.00
MEAN	31.40	31.40	29.50	29.00	27.50	26.80	26.30	25.80	25.80
FRSTIV=	1.00000E+01	XZERO= 0.00000E+00	1	YZERO= 0.00000E+00;	0	INIEQ=			
NPTS=	365	INC=	1	LINITYP=					
1.00000E+00	1.49280E+01	INC=	1	LINITYP=	0	INIEQ=			
NPTS=	365	INC=	1	LINITYP=	0	INIEQ=			
1.00000E+00	1.49280E+01	INC=	1	LINITYP=	0	INIEQ=			
NPTS=	365	INC=	1	LINITYP=	0	INIEQ=			
1.00000E+00	1.49280E+01	INC=	1	LINITYP=	0	INIEQ=			
NPTS=	365	INC=	1	LINITYP=	0	INIEQ=			
1.00000E+00	1.49280E+01	INC=	1	LINITYP=	0	INIEQ=			
NPTS=	365	INC=	1	LINITYP=	0	INIEQ=			

OFFICE, STATE DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2076700 BLUEWATER CREEK NEAR BRIDGER, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.90	LOW
10-01	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00
10-02	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00
10-03	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00
10-04	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00
10-05	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00
10-06	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00
10-07	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00
10-08	29.00	29.00	29.00	29.00	28.00	27.00	27.00	27.00
10-09	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00
10-10	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00
10-11	29.00	29.00	29.00	29.00	27.00	27.00	26.00	26.00
10-12	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00
10-13	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00
10-14	30.00	30.00	30.00	29.00	28.00	27.00	26.00	26.00
10-15	30.00	30.00	30.00	29.00	28.00	27.00	26.00	26.00
10-16	30.00	30.00	30.00	29.00	28.00	27.00	26.00	26.00
10-17	30.00	30.00	30.00	29.00	28.00	27.00	26.00	26.00
10-18	30.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
10-19	30.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00
10-20	31.00	31.00	30.00	30.00	28.00	27.00	26.00	26.00
10-21	31.00	31.00	30.00	29.00	28.00	27.00	26.00	26.00
10-22	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00
10-23	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00
10-24	32.00	32.00	30.00	28.00	27.00	26.00	26.00	26.00
10-25	32.00	32.00	30.00	28.00	27.00	27.00	26.00	26.00
10-26	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00
10-27	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00
10-28	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
10-29	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
10-30	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
10-31	32.00	32.00	31.00	30.00	28.00	27.00	25.00	25.00
MEAN	30.30	30.30	29.10	28.90	27.50	26.90	26.50	26.50

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

BLUEWATER CREEK NEAR BRIDGER, MT.

PLUING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
11-01	32.00	32.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
11-02	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
11-03	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
11-04	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
11-05	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
11-06	31.00	31.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
11-07	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
11-08	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
11-09	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
11-10	32.00	32.00	31.00	29.00	29.00	27.00	27.00	25.00	25.00
11-11	32.00	32.00	32.00	29.00	29.00	27.00	27.00	25.00	25.00
11-12	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
11-13	32.00	32.00	32.00	30.00	29.00	27.00	27.00	26.00	26.00
11-14	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
11-15	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
11-16	32.00	32.00	32.00	30.00	29.00	27.00	26.00	25.00	25.00
11-17	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-18	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-19	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-20	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-21	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-22	32.00	32.00	32.00	30.00	28.00	27.00	26.00	25.00	25.00
11-23	32.00	32.00	31.00	30.00	28.00	27.00	26.00	25.00	25.00
11-24	32.00	32.00	31.00	30.00	28.00	27.00	26.00	25.00	25.00
11-25	32.00	32.00	31.00	30.00	28.00	27.00	26.00	25.00	25.00
11-26	32.00	32.00	31.00	31.00	27.00	27.00	26.00	26.00	26.00
11-27	32.00	32.00	31.00	31.00	28.00	27.00	26.00	26.00	26.00
11-28	32.00	32.00	31.00	31.00	27.00	27.00	27.00	26.00	26.00
11-29	32.00	32.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
11-30	32.00	32.00	31.00	31.00	28.00	27.00	27.00	27.00	27.00
MEAN	31.80	31.80	31.40	30.20	28.50	27.00	26.50	25.70	25.70

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 BLUE WATER CREEK NEAR BRIDGE, MT. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.90	LOW
12-01	32.00	32.00	31.00	31.00	28.00	27.00	26.00	26.00
12-02	32.00	32.00	31.00	31.00	28.00	27.00	27.00	27.00
12-03	31.00	31.00	31.00	31.00	28.00	27.00	27.00	27.00
12-04	31.00	31.00	31.00	31.00	28.00	27.00	27.00	27.00
12-05	32.00	32.00	31.00	31.00	28.00	27.00	27.00	27.00
12-06	31.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
12-07	31.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
12-08	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-09	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-10	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-11	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-12	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
12-13	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00
12-14	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-15	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00
12-16	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
12-17	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
12-18	32.00	32.00	31.00	30.00	28.00	28.00	26.00	26.00
12-19	32.00	32.00	31.00	30.00	28.00	28.00	26.00	26.00
12-20	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
12-21	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00
12-22	31.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00
12-23	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00
12-24	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00
12-25	32.00	32.00	31.00	30.00	29.00	28.00	26.00	26.00
12-26	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00
12-27	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00
12-28	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00
12-29	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00
12-30	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00
12-31	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00
MEAN	31.50	31.50	30.90	30.20	27.70	27.30	26.60	26.60

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
1-01	24.00	21.00	20.00	17.00	14.00	12.00	10.00	9.00	5.00
1-02	24.00	22.00	20.00	17.00	14.00	12.00	9.50	9.00	5.00
1-03	24.00	22.00	19.00	17.00	14.00	11.00	10.00	8.10	4.00
1-04	24.00	21.00	20.00	18.00	14.00	12.00	11.00	10.00	5.00
1-05	24.00	21.00	20.00	19.00	13.00	12.00	11.00	10.00	6.00
1-06	24.00	20.00	20.00	19.00	14.00	11.00	10.00	9.20	4.00
1-07	24.00	24.00	20.00	19.00	14.00	12.00	10.00	9.00	6.00
1-08	26.00	24.00	19.00	18.00	15.00	12.00	10.00	9.00	5.00
1-09	26.00	24.00	19.00	17.00	15.00	12.00	10.00	9.00	4.00
1-10	29.00	23.00	19.00	18.00	15.00	11.00	10.00	8.60	5.00
1-11	29.00	23.00	19.00	18.00	15.00	12.00	10.00	8.00	7.00
1-12	27.00	21.00	19.00	18.00	15.00	13.00	9.50	8.00	7.00
1-13	26.00	23.00	20.00	17.00	15.00	12.00	10.00	7.00	5.00
1-14	27.00	23.00	20.00	17.00	13.00	12.00	9.00	8.00	5.00
1-15	27.00	23.00	21.00	15.00	13.00	11.00	9.00	8.00	5.00
1-16	27.00	21.00	17.00	15.00	12.00	10.00	9.00	7.00	4.00
1-17	27.00	20.00	17.00	15.00	12.00	9.50	9.00	7.00	5.00
1-18	27.00	20.00	16.00	15.00	12.00	10.00	8.00	6.00	4.00
1-19	27.00	22.00	15.00	14.00	12.00	10.00	7.00	5.00	4.00
1-20	27.00	22.00	16.00	14.00	12.00	10.00	8.00	5.50	4.00
1-21	26.00	26.00	16.00	15.00	12.00	10.00	8.00	7.00	4.00
1-22	29.00	23.00	17.00	15.00	12.00	9.00	8.00	7.00	4.00
1-23	29.00	22.00	17.00	14.00	11.00	9.00	8.00	6.00	5.00
1-24	29.00	26.00	16.00	14.00	11.00	9.00	8.00	6.00	5.00
1-25	30.00	24.00	16.00	14.00	11.00	9.00	8.00	6.00	5.00
1-26	30.00	17.00	15.00	13.00	11.00	10.00	10.00	8.00	3.50
1-27	27.00	16.00	15.00	13.00	12.00	10.00	10.00	6.50	4.50
1-28	25.00	15.00	15.00	13.00	12.00	10.00	10.00	9.00	4.00
1-29	25.00	17.00	15.00	13.00	12.00	10.00	9.00	8.00	4.50
1-30	25.00	15.00	15.00	13.00	12.00	10.00	9.00	8.00	6.00
1-31	25.00	17.00	15.00	14.00	12.00	10.00	9.00	8.00	6.00
MEAN	25.50	18.60	16.70	14.70	13.50	11.30	9.89	8.74	5.22

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	High	.10	.20	.30	.50	.70	.80	.90	LOW
2-01	26.00	18.00	15.00	14.00	11.00	10.00	9.00	8.00	6.00
2-02	29.00	19.00	16.00	13.00	12.00	10.00	10.00	8.00	5.00
2-03	35.00	28.00	16.00	12.00	11.00	10.00	10.00	9.00	5.00
2-04	50.00	25.00	16.00	14.00	12.00	10.00	9.80	8.00	5.00
2-05	35.00	23.00	16.00	13.00	12.00	10.00	9.50	8.20	5.00
2-06	30.00	21.00	15.00	13.00	11.00	10.00	10.00	9.00	5.00
2-07	21.00	20.00	15.00	14.00	11.00	10.00	9.00	9.00	5.00
2-08	21.00	19.00	16.00	13.00	11.00	10.00	9.00	8.00	5.00
2-09	21.00	19.00	15.00	14.00	11.00	10.00	9.00	7.00	6.00
2-10	22.00	20.00	16.00	14.00	11.00	10.00	8.60	8.00	7.00
2-11	24.00	16.00	14.00	13.00	10.00	10.00	9.00	7.00	7.00
2-12	25.00	17.00	15.00	12.00	11.00	10.00	9.00	7.00	6.00
2-13	26.00	16.00	14.00	12.00	10.00	9.80	9.00	7.00	4.00
2-14	26.00	16.00	12.00	12.00	10.00	9.00	8.00	7.00	5.00
2-15	27.00	16.00	12.00	12.00	11.00	9.60	7.50	7.00	5.00
2-16	26.00	16.00	14.00	12.00	10.00	9.00	8.00	7.00	5.00
2-17	26.00	16.00	14.00	12.00	11.00	8.50	8.00	7.00	5.00
2-18	25.00	18.00	15.00	12.00	11.00	8.50	8.00	6.00	5.00
2-19	26.00	23.00	15.00	13.00	11.00	9.00	8.00	6.00	5.50
2-20	38.00	20.00	15.00	15.00	12.00	10.00	8.00	6.00	6.00
2-21	28.00	17.00	15.00	14.00	11.00	9.00	8.00	6.50	6.00
2-22	21.00	18.00	15.00	14.00	12.00	10.00	8.00	6.00	3.50
2-23	19.00	17.00	15.00	14.00	12.00	10.00	8.00	6.00	2.50
2-24	18.00	17.00	15.00	14.00	11.00	10.00	9.00	6.00	2.00
2-25	23.00	16.00	15.00	14.00	12.00	10.00	9.00	6.00	1.50
2-26	27.00	15.00	14.00	13.00	12.00	10.00	10.00	5.00	1.00
2-27	22.00	15.00	14.00	13.00	11.00	10.00	10.00	5.00	3.00
2-28	19.00	15.00	14.00	13.00	12.00	9.00	9.00	5.00	3.50
MEAN	22.30	16.60	14.60	12.80	11.60	10.00	8.71	7.79	6.64

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/245/00 SWEET CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
3-01	19.00	15.00	13.00	12.00	11.00	9.00	8.00	6.50	3.50
3-02	18.00	15.00	13.00	12.00	10.00	8.00	7.00	6.00	2.50
3-03	16.00	15.00	12.00	11.00	10.00	7.50	6.50	5.00	2.00
3-04	17.00	15.00	15.00	11.00	10.00	8.00	7.00	6.00	2.00
3-05	19.00	16.00	14.00	11.00	10.00	8.00	8.00	6.00	2.00
3-06	18.00	17.00	14.00	11.00	10.00	9.00	8.00	6.00	2.50
3-07	17.00	15.00	12.00	12.00	10.00	9.00	8.00	6.00	3.50
3-08	17.00	14.00	12.00	11.00	11.00	9.00	8.00	6.00	4.50
3-09	17.00	15.00	12.00	12.00	11.00	8.50	8.00	6.00	5.50
3-10	20.00	15.00	12.00	11.00	10.00	8.00	7.00	6.00	5.00
3-11	23.00	18.00	13.00	11.00	9.00	7.50	7.00	6.00	4.50
3-12	16.00	14.00	12.00	11.00	10.00	8.00	7.00	6.00	4.50
3-13	16.00	14.00	13.00	10.00	9.20	8.00	7.00	6.00	6.00
3-14	17.00	15.00	12.00	10.00	9.00	8.00	7.00	6.50	5.50
3-15	16.00	15.00	12.00	11.00	9.00	8.00	7.00	6.50	5.50
3-16	18.00	15.00	13.00	11.00	10.00	8.20	8.00	6.50	6.00
3-17	18.00	16.00	13.00	12.00	9.20	8.00	7.00	7.00	6.00
3-18	19.00	15.00	13.00	12.00	9.80	8.00	7.50	6.50	6.00
3-19	17.00	14.00	12.00	12.00	10.00	8.60	7.00	7.00	6.00
3-20	16.00	13.00	12.00	12.00	10.00	8.50	7.00	7.00	6.00
3-21	16.00	15.00	13.00	12.00	10.00	8.50	8.00	6.00	6.00
3-22	20.00	16.00	14.00	13.00	12.00	9.00	8.00	6.50	4.80
3-23	24.00	17.00	15.00	13.00	12.00	8.00	7.50	7.00	5.60
3-24	30.00	23.00	15.00	12.00	11.00	9.00	7.00	7.00	6.50
3-25	40.00	25.00	16.00	13.00	12.00	9.00	8.50	7.00	6.00
3-26	50.00	28.00	15.00	14.00	12.00	9.80	8.50	7.00	5.20
3-27	60.00	30.00	15.00	14.00	12.00	10.00	9.00	7.00	6.00
3-28	50.00	25.00	17.00	14.00	12.00	10.00	9.30	7.00	6.50
3-29	38.00	22.00	16.00	14.00	12.00	11.00	9.00	7.50	7.00
3-30	26.00	19.00	16.00	14.00	12.00	10.00	9.50	8.00	7.50
3-31	32.00	20.00	17.00	15.00	12.00	11.00	9.20	8.00	7.50
MEAN	18.50	14.50	13.20	11.80	11.10	9.52	8.90	7.70	5.74

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 WELT GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
4-01	58.00	25.00	17.00	16.00	12.00	11.00	9.80	8.00	7.00
4-02	59.00	21.00	18.00	16.00	12.00	10.00	9.00	8.60	7.00
4-03	28.00	22.00	17.00	16.00	12.00	9.80	9.50	8.50	7.00
4-04	24.00	19.00	16.00	15.00	12.00	11.00	9.80	9.00	6.00
4-05	22.00	20.00	17.00	16.00	13.00	11.00	10.00	9.00	8.00
4-06	25.00	22.00	16.00	17.00	13.00	11.00	10.00	8.50	7.00
4-07	27.00	24.00	18.00	16.00	13.00	11.00	9.80	9.00	7.50
4-08	27.00	24.00	18.00	15.00	12.00	11.00	10.00	8.80	6.50
4-09	23.00	22.00	19.00	14.00	13.00	11.00	10.00	8.80	7.00
4-10	37.00	22.00	20.00	15.00	14.00	12.00	10.00	9.00	7.00
4-11	40.00	21.00	18.00	15.00	14.00	11.00	10.00	9.00	7.00
4-12	29.00	21.00	17.00	15.00	13.00	11.00	9.80	9.00	7.00
4-13	26.00	21.00	18.00	17.00	13.00	11.00	10.00	8.20	7.50
4-14	24.00	23.00	18.00	17.00	14.00	12.00	10.00	8.80	6.00
4-15	25.00	21.00	18.00	17.00	14.00	12.00	11.00	8.50	6.00
4-16	24.00	20.00	19.00	17.00	15.00	12.00	10.00	8.80	6.00
4-17	24.00	21.00	19.00	17.00	15.00	12.00	11.00	9.20	8.00
4-18	24.00	20.00	18.00	16.00	15.00	12.00	11.00	8.50	8.00
4-19	60.00	20.00	18.00	16.00	14.00	11.00	10.00	8.00	7.70
4-20	142.00	24.00	18.00	16.00	14.00	12.00	11.00	9.00	8.00
4-21	227.00	22.00	17.00	16.00	15.00	12.00	11.00	9.50	8.00
4-22	179.00	27.00	19.00	17.00	15.00	14.00	11.00	9.50	8.00
4-23	159.00	26.00	20.00	17.00	15.00	13.00	11.00	9.50	8.80
4-24	147.00	23.00	21.00	17.00	14.00	12.00	11.00	10.00	8.40
4-25	142.00	24.00	20.00	18.00	14.00	12.00	11.00	8.00	6.40
4-26	139.00	25.00	21.00	18.00	14.00	12.00	11.00	9.80	9.50
4-27	128.00	24.00	23.00	21.00	15.00	13.00	11.00	8.50	6.50
4-28	128.00	34.00	23.00	20.00	16.00	13.00	11.00	9.60	6.50
4-29	142.00	123.00	22.00	22.00	17.00	13.00	11.00	10.00	6.60
4-30	153.00	111.00	25.00	22.00	18.00	14.00	11.00	9.80	6.50
MEAN	71.40	23.20	20.40	17.50	15.00	13.00	10.70	10.00	6.93

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED--11/23/82

STATION 16/20052 WATER GAUGE CREEK ABOVE MELVILLE, WI.

PLUING POINTS FOR CUKATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LWA
5-01	194.00	118.00	27.00	23.00	18.00	14.00	12.00	9.60	8.80
5-02	232.00	113.00	38.00	27.00	18.00	15.00	12.00	9.60	8.40
5-03	283.00	106.00	58.00	35.00	19.00	14.00	12.00	9.50	7.70
5-04	368.00	126.00	72.00	34.00	19.00	14.00	13.00	9.60	7.70
5-05	348.00	156.00	72.00	57.00	21.00	16.00	14.00	9.00	7.70
5-06	364.00	167.00	72.00	58.00	27.00	17.00	13.00	9.80	7.70
5-07	406.00	151.00	113.00	75.00	30.00	17.00	12.00	9.80	8.40
5-08	466.00	212.00	118.00	81.00	37.00	17.00	13.00	9.80	8.40
5-09	574.00	180.00	112.00	85.00	49.00	22.00	13.00	9.60	8.00
5-10	574.00	154.00	113.00	100.00	54.00	22.00	14.00	9.60	8.00
5-11	423.00	292.00	142.00	116.00	76.00	22.00	15.00	9.40	8.50
5-12	416.00	286.00	222.00	161.00	81.00	24.00	19.00	12.00	9.50
5-13	497.00	311.00	261.00	205.00	95.00	33.00	20.00	12.00	9.50
5-14	433.00	367.00	251.00	198.00	102.00	35.00	23.00	13.00	9.50
5-15	530.00	368.00	236.00	194.00	102.00	61.00	32.00	14.00	12.00
5-16	558.00	275.00	219.00	170.00	128.00	89.00	34.00	21.00	14.00
5-17	999.00	240.00	208.00	202.00	131.00	85.00	50.00	21.00	15.00
5-18	656.00	308.00	275.00	212.00	144.00	82.00	76.00	38.00	16.00
5-19	647.00	364.00	319.00	232.00	151.00	106.00	85.00	72.00	17.00
5-20	653.00	468.00	324.00	282.00	170.00	118.00	95.00	72.00	17.00
5-21	1140.00	497.00	373.00	281.00	173.00	116.00	106.00	76.00	19.00
5-22	1030.00	545.00	368.00	292.00	192.00	150.00	110.00	101.00	72.00
5-23	630.00	568.00	351.00	306.00	203.00	167.00	148.00	106.00	78.00
5-24	636.00	582.00	480.00	267.00	215.00	167.00	140.00	102.00	94.00
5-25	706.00	554.00	444.00	326.00	215.00	158.00	138.00	100.00	94.00
5-26	976.00	582.00	509.00	350.00	244.00	185.00	140.00	114.00	96.00
5-27	757.00	574.00	450.00	375.00	307.00	214.00	136.00	124.00	112.00
5-28	1260.00	568.00	450.00	418.00	338.00	218.00	163.00	129.00	117.00
5-29	1010.00	611.00	515.00	458.00	398.00	211.00	190.00	136.00	117.00
5-30	698.00	575.00	541.00	476.00	342.00	254.00	228.00	158.00	120.00
5-31	679.00	575.00	456.00	443.00	355.00	263.00	223.00	193.00	114.00
MEAN	318.00	273.00	252.00	237.00	171.00	136.00	115.00	82.20	78.50

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE HELVILL, MI. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
6-01	598.00	540.00	450.00	403.00	340.00	255.00	198.00	164.00	120.00
6-02	659.00	603.00	596.00	423.00	365.00	238.00	187.00	169.00	120.00
6-03	1350.00	822.00	570.00	503.00	383.00	296.00	220.00	170.00	114.00
6-04	1490.00	884.00	611.00	500.00	408.00	308.00	226.00	161.00	117.00
6-05	1130.00	803.00	530.00	468.00	400.00	295.00	256.00	194.00	153.00
6-06	740.00	742.00	574.00	479.00	350.00	279.00	215.00	190.00	150.00
6-07	853.00	692.00	594.00	463.00	336.00	286.00	232.00	180.00	153.00
6-08	872.00	611.00	497.00	443.00	355.00	295.00	224.00	164.00	141.00
6-09	872.00	667.00	616.00	468.00	360.00	301.00	216.00	189.00	141.00
6-10	749.00	606.00	499.00	468.00	418.00	341.00	310.00	183.00	163.00
6-11	626.00	547.00	492.00	457.00	378.00	346.00	302.00	221.00	201.00
6-12	730.00	566.00	503.00	455.00	403.00	329.00	295.00	227.00	194.00
6-13	1010.00	670.00	592.00	496.00	344.00	314.00	259.00	226.00	170.00
6-14	870.00	742.00	540.00	470.00	340.00	271.00	240.00	195.00	170.00
6-15	1100.00	667.00	552.00	521.00	397.00	275.00	222.00	190.00	158.00
6-16	1120.00	858.00	613.00	527.00	428.00	306.00	227.00	189.00	145.00
6-17	1360.00	813.00	710.00	508.00	428.00	279.00	238.00	194.00	138.00
6-18	990.00	751.00	632.00	576.00	388.00	259.00	222.00	201.00	132.00
6-19	891.00	764.00	579.00	485.00	395.00	296.00	251.00	179.00	173.00
6-20	1030.00	694.00	635.00	485.00	378.00	300.00	279.00	226.00	180.00
6-21	872.00	662.00	604.00	478.00	375.00	267.00	236.00	227.00	208.00
6-22	856.00	714.00	555.00	423.00	355.00	261.00	212.00	149.00	170.00
6-23	786.00	521.00	509.00	457.00	326.00	221.00	202.00	176.00	145.00
6-24	544.00	502.00	465.00	458.00	373.00	236.00	209.00	182.00	139.00
6-25	755.00	548.00	456.00	368.00	332.00	257.00	217.00	195.00	173.00
6-26	1300.00	764.00	550.00	408.00	314.00	224.00	204.00	179.00	167.00
6-27	737.00	680.00	540.00	469.00	310.00	275.00	220.00	179.00	151.00
6-28	603.00	491.00	410.00	410.00	319.00	259.00	222.00	196.00	145.00
6-29	527.00	450.00	385.00	356.00	274.00	233.00	222.00	142.00	136.00
6-30	614.00	561.00	433.00	345.00	256.00	208.00	190.00	172.00	126.00
MEAN	585.00	532.00	475.00	461.00	372.00	337.00	274.00	260.00	249.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MI. DATE PROCESSED--11/23/62
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
7-01	664.00	560.00	468.00	380.00	279.00	202.00	182.00	164.00	109.00
7-02	563.00	497.00	425.00	370.00	275.00	200.00	207.00	142.00	104.00
7-03	487.00	468.00	415.00	375.00	310.00	244.00	229.00	145.00	96.00
7-04	472.00	463.00	423.00	390.00	304.00	233.00	197.00	139.00	94.00
7-05	463.00	443.00	410.00	348.00	272.00	219.00	187.00	145.00	87.00
7-06	443.00	432.00	375.00	350.00	235.00	223.00	192.00	136.00	89.00
7-07	446.00	427.00	403.00	351.00	267.00	203.00	187.00	134.00	87.00
7-08	444.00	423.00	384.00	342.00	240.00	187.00	170.00	139.00	85.00
7-09	446.00	433.00	400.00	335.00	230.00	183.00	161.00	134.00	83.00
7-10	502.00	450.00	397.00	354.00	229.00	180.00	161.00	149.00	81.00
7-11	446.00	408.00	372.00	346.00	222.00	176.00	163.00	145.00	76.00
7-12	408.00	362.00	350.00	296.00	208.00	173.00	154.00	134.00	74.00
7-13	436.00	341.00	310.00	274.00	217.00	179.00	154.00	131.00	70.00
7-14	413.00	343.00	322.00	276.00	203.00	173.00	149.00	131.00	70.00
7-15	408.00	301.00	262.00	269.00	197.00	163.00	141.00	122.00	63.00
7-16	328.00	293.00	263.00	250.00	187.00	163.00	136.00	122.00	63.00
7-17	427.00	269.00	247.00	229.00	176.00	156.00	128.00	117.00	61.00
7-18	318.00	264.00	243.00	212.00	164.00	148.00	122.00	114.00	59.00
7-19	286.00	252.00	236.00	206.00	160.00	145.00	114.00	108.00	59.00
7-20	286.00	244.00	214.00	201.00	156.00	140.00	112.00	104.00	59.00
7-21	244.00	219.00	197.00	193.00	145.00	132.00	104.00	96.00	59.00
7-22	223.00	206.00	197.00	190.00	137.00	128.00	102.00	96.00	57.00
7-23	215.00	203.00	193.00	180.00	131.00	121.00	96.00	94.00	57.00
7-24	206.00	187.00	179.00	173.00	125.00	114.00	94.00	92.00	55.00
7-25	247.00	188.00	176.00	170.00	120.00	106.00	100.00	87.00	55.00
7-26	204.00	180.00	170.00	161.00	112.00	99.00	97.00	85.00	55.00
7-27	185.00	174.00	164.00	153.00	109.00	96.00	95.00	82.00	55.00
7-28	183.00	164.00	155.00	149.00	106.00	94.00	89.00	80.00	54.00
7-29	203.00	151.00	148.00	143.00	101.00	86.00	85.00	76.00	52.00
7-30	203.00	149.00	140.00	135.00	95.00	85.00	83.00	73.00	50.00
7-31	185.00	143.00	138.00	125.00	96.00	83.00	76.00	70.00	49.00
MEAN	316.00	308.00	268.00	250.00	200.00	159.00	144.00	115.00	69.90

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWIFT GRASS CREEK ABOVE MELVILLE, MI. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
8-01	201.00	138.00	130.00	122.00	100.00	85.00	76.00	68.00	47.00
8-02	174.00	141.00	129.00	118.00	92.00	78.00	74.00	68.00	46.00
8-03	177.00	140.00	126.00	114.00	87.00	74.00	72.00	66.00	43.00
8-04	197.00	150.00	124.00	109.00	85.00	74.00	71.00	64.00	42.00
8-05	256.00	148.00	121.00	108.00	83.00	72.00	68.00	62.00	40.00
8-06	214.00	140.00	118.00	101.00	81.00	72.00	70.00	59.00	40.00
8-07	185.00	141.00	114.00	101.00	76.00	70.00	68.00	58.00	35.00
8-08	171.00	136.00	111.00	96.00	76.00	68.00	65.00	58.00	32.00
8-09	158.00	125.00	104.00	96.00	74.00	66.00	63.00	58.00	32.00
8-10	150.00	116.00	99.00	92.00	74.00	64.00	61.00	55.00	36.00
8-11	166.00	112.00	93.00	89.00	73.00	64.00	59.00	54.00	35.00
8-12	185.00	104.00	94.00	85.00	74.00	63.00	63.00	53.00	34.00
8-13	152.00	99.00	92.00	81.00	71.00	61.00	60.00	51.00	37.00
8-14	144.00	96.00	88.00	81.00	71.00	59.00	55.00	51.00	36.00
8-15	136.00	94.00	84.00	76.00	66.00	58.00	54.00	48.00	35.00
8-16	131.00	90.00	82.00	70.00	64.00	57.00	57.00	47.00	36.00
8-17	126.00	86.00	81.00	73.00	61.00	57.00	54.00	47.00	35.00
8-18	124.00	83.00	78.00	70.00	59.00	55.00	55.00	47.00	34.00
8-19	121.00	81.00	76.00	68.00	59.00	55.00	54.00	48.00	33.00
8-20	124.00	83.00	77.00	72.00	59.00	54.00	52.00	48.00	33.00
8-21	146.00	104.00	73.00	69.00	56.00	54.00	50.00	45.00	32.00
8-22	173.00	100.00	69.00	67.00	57.00	53.00	50.00	43.00	30.00
8-23	189.00	96.00	75.00	65.00	57.00	52.00	47.00	42.00	30.00
8-24	226.00	93.00	74.00	64.00	56.00	52.00	47.00	40.00	30.00
8-25	179.00	93.00	72.00	63.00	55.00	49.00	48.00	40.00	30.00
8-26	164.00	89.00	68.00	61.00	55.00	49.00	48.00	38.00	30.00
8-27	152.00	85.00	68.00	60.00	53.00	49.00	46.00	37.00	30.00
8-28	135.00	82.00	68.00	58.00	53.00	48.00	46.00	37.00	30.00
8-29	124.00	80.00	68.00	61.00	53.00	47.00	46.00	37.00	30.00
8-30	114.00	76.00	64.00	56.00	53.00	45.00	44.00	37.00	25.00
8-31	106.00	75.00	63.00	59.00	51.00	43.00	42.00	36.00	24.00
MEAN	136.00	105.00	94.40	83.30	67.80	60.90	56.30	50.30	34.30

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LWM
9-01	98.00	73.00	63.00	59.00	50.00	43.00	39.00	37.00	25.00
9-02	92.00	83.00	65.00	60.00	49.00	44.00	39.00	36.00	25.00
9-03	94.00	81.00	64.00	55.00	47.00	43.00	39.00	35.00	24.00
9-04	94.00	76.00	63.00	52.00	45.00	41.00	36.00	35.00	22.00
9-05	92.00	72.00	60.00	54.00	45.00	42.00	39.00	34.00	23.00
9-06	87.00	70.00	59.00	50.00	44.00	41.00	39.00	33.00	23.00
9-07	83.00	68.00	58.00	52.00	44.00	40.00	38.00	33.00	24.00
9-08	78.00	66.00	58.00	51.00	42.00	39.00	38.00	33.00	24.00
9-09	74.00	66.00	57.00	50.00	41.00	39.00	37.00	33.00	24.00
9-10	74.00	64.00	55.00	50.00	41.00	38.00	36.00	32.00	27.00
9-11	72.00	62.00	55.00	50.00	40.00	37.00	36.00	31.00	26.00
9-12	76.00	62.00	52.00	51.00	40.00	37.00	35.00	30.00	26.00
9-13	70.00	60.00	53.00	50.00	40.00	37.00	34.00	33.00	26.00
9-14	68.00	64.00	55.00	50.00	40.00	36.00	33.00	31.00	25.00
9-15	198.00	64.00	55.00	49.00	40.00	36.00	33.00	29.00	25.00
9-16	205.00	60.00	55.00	50.00	38.00	35.00	35.00	28.00	24.00
9-17	179.00	58.00	54.00	49.00	42.00	36.00	33.00	29.00	24.00
9-18	161.00	57.00	54.00	47.00	40.00	36.00	33.00	29.00	25.00
9-19	146.00	59.00	53.00	45.00	39.00	35.00	33.00	29.00	18.00
9-20	138.00	70.00	52.00	49.00	39.00	33.00	33.00	26.00	24.00
9-21	167.00	73.00	52.00	46.00	41.00	35.00	33.00	29.00	24.00
9-22	149.00	70.00	48.00	45.00	42.00	35.00	32.00	29.00	24.00
9-23	141.00	90.00	46.00	46.00	36.00	34.00	32.00	29.00	24.00
9-24	129.00	94.00	49.00	44.00	38.00	34.00	31.00	29.00	24.00
9-25	118.00	84.00	50.00	44.00	38.00	34.00	30.00	29.00	25.00
9-26	114.00	86.00	51.00	42.00	37.00	34.00	30.00	28.00	24.00
9-27	111.00	94.00	51.00	41.00	37.00	34.00	30.00	27.00	24.00
9-28	108.00	96.00	50.00	43.00	35.00	34.00	31.00	27.00	24.00
9-29	119.00	101.00	51.00	42.00	35.00	33.00	30.00	27.00	23.00
9-30	129.00	96.00	52.00	42.00	35.00	33.00	29.00	27.00	23.00
MEAN	105.00	64.70	53.00	49.30	42.70	37.00	35.40	29.90	27.20

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SAGEE GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
10-01	185.00	103.00	61.00	43.00	36.00	34.00	32.00	28.00	23.00
10-02	145.00	103.00	59.00	46.00	36.00	32.00	31.00	27.00	22.00
10-03	140.00	119.00	59.00	44.00	36.00	32.00	30.00	26.00	21.00
10-04	153.00	129.00	57.00	43.00	35.00	30.00	29.00	25.00	21.00
10-05	142.00	119.00	57.00	49.00	35.00	30.00	29.00	25.00	21.00
10-06	138.00	113.00	55.00	47.00	35.00	29.00	28.00	24.00	21.00
10-07	136.00	108.00	54.00	46.00	33.00	29.00	28.00	25.00	20.00
10-08	132.00	106.00	51.00	46.00	34.00	29.00	28.00	27.00	20.00
10-09	126.00	102.00	51.00	43.00	34.00	30.00	28.00	26.00	20.00
10-10	125.00	101.00	56.00	44.00	33.00	30.00	28.00	26.00	20.00
10-11	121.00	100.00	58.00	44.00	33.00	29.00	28.00	25.00	20.00
10-12	112.00	98.00	62.00	46.00	33.00	29.00	28.00	25.00	20.00
10-13	105.00	96.00	66.00	44.00	33.00	29.00	27.00	24.00	20.00
10-14	101.00	90.00	70.00	46.00	33.00	29.00	26.00	24.00	20.00
10-15	97.00	87.00	68.00	47.00	33.00	29.00	27.00	25.00	20.00
10-16	94.00	83.00	66.00	47.00	33.00	29.00	26.00	25.00	20.00
10-17	92.00	80.00	64.00	45.00	34.00	28.00	26.00	24.00	20.00
10-18	88.00	76.00	66.00	45.00	33.00	28.00	26.00	23.00	20.00
10-19	82.00	74.00	66.00	45.00	32.00	27.00	27.00	23.00	20.00
10-20	81.00	76.00	64.00	46.00	32.00	27.00	27.00	23.00	20.00
10-21	79.00	72.00	64.00	50.00	32.00	27.00	26.00	23.00	20.00
10-22	77.00	72.00	62.00	52.00	31.00	27.00	25.00	22.00	20.00
10-23	77.00	68.00	63.00	52.00	32.00	27.00	24.00	23.00	20.00
10-24	75.00	65.00	60.00	50.00	32.00	27.00	26.00	22.00	20.00
10-25	75.00	64.00	58.00	52.00	33.00	27.00	25.00	22.00	19.00
10-26	73.00	65.00	58.00	51.00	33.00	26.00	24.00	22.00	19.00
10-27	71.00	64.00	56.00	51.00	34.00	26.00	24.00	21.00	20.00
10-28	70.00	63.00	54.00	49.00	35.00	25.00	24.00	20.00	19.00
10-29	70.00	60.00	52.00	48.00	34.00	25.00	23.00	20.00	18.00
10-30	66.00	58.00	51.00	48.00	33.00	25.00	23.00	21.00	17.00
10-31	68.00	58.00	51.00	49.00	34.00	24.00	22.00	21.00	18.00
MEAN	93.20	91.40	58.40	48.70	33.60	28.60	26.70	26.00	20.40

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE 4ELVILLE, MT. DATE PROCESSED--11/23/82
PLOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	66.00	55.00	44.00	33.00	22.00	11.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-01	66.00	55.00	44.00	33.00	22.00	11.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-02	65.00	54.00	43.00	32.00	21.00	10.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-03	65.00	54.00	43.00	32.00	21.00	10.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-04	65.00	54.00	43.00	32.00	21.00	10.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-05	62.00	51.00	40.00	29.00	18.00	07.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-06	60.00	49.00	38.00	27.00	16.00	05.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-07	60.00	49.00	38.00	27.00	16.00	05.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-08	58.00	47.00	36.00	25.00	14.00	03.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-09	56.00	45.00	34.00	23.00	12.00	01.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-10	55.00	44.00	33.00	22.00	11.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-11	55.00	44.00	33.00	22.00	11.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-12	53.00	42.00	31.00	20.00	10.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-13	53.00	42.00	31.00	20.00	10.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-14	53.00	42.00	31.00	20.00	10.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-15	56.00	45.00	34.00	23.00	12.00	01.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-16	55.00	44.00	33.00	22.00	11.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-17	52.00	41.00	30.00	19.00	09.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-18	51.00	40.00	29.00	18.00	08.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-19	48.00	37.00	26.00	15.00	05.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-20	48.00	37.00	26.00	15.00	05.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-21	48.00	37.00	26.00	15.00	05.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-22	41.00	30.00	19.00	08.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-23	39.00	28.00	17.00	06.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-24	39.00	28.00	17.00	06.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-25	40.00	29.00	18.00	07.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-26	41.00	30.00	19.00	08.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-27	40.00	29.00	18.00	07.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-28	40.00	29.00	18.00	07.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-29	39.00	28.00	17.00	06.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
11-30	39.00	28.00	17.00	06.00	00.00	00.00	00.00	11.00	22.00	33.00	44.00	55.00	66.00
MEAN	51.30	42.10	32.90	23.70	14.50	05.30	00.00	11.00	22.00	33.00	44.00	55.00	66.00

UNITED STATES DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT. DATE PROCESSED--11/23/82

PLUOTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LUM
12-01	34.00	35.00	28.00	27.00	22.00	17.00	16.00	13.00	9.50
12-02	39.00	35.00	28.00	27.00	21.00	17.00	15.00	13.00	9.50
12-03	46.00	33.00	28.00	26.00	21.00	16.00	15.00	12.00	10.00
12-04	41.00	33.00	27.00	26.00	21.00	17.00	14.00	10.00	8.00
12-05	39.00	32.00	26.00	25.00	20.00	17.00	13.00	10.00	3.20
12-06	36.00	33.00	26.00	25.00	20.00	16.00	13.00	10.00	3.00
12-07	38.00	33.00	26.00	24.00	19.00	14.00	13.00	12.00	8.00
12-08	37.00	33.00	26.00	24.00	18.00	14.00	13.00	12.00	8.00
12-09	36.00	30.00	26.00	23.00	18.00	14.00	12.00	10.00	8.60
12-10	35.00	32.00	27.00	22.00	16.00	13.00	12.00	11.00	8.00
12-11	34.00	33.00	28.00	22.00	18.00	12.00	11.00	9.00	8.00
12-12	34.00	29.00	28.00	21.00	18.00	13.00	11.00	10.00	4.00
12-13	34.00	27.00	23.00	21.00	17.00	11.00	11.00	8.00	8.00
12-14	32.00	29.00	21.00	20.00	17.00	13.00	11.00	10.00	7.00
12-15	32.00	29.00	23.00	20.00	18.00	12.00	12.00	7.00	5.00
12-16	32.00	26.00	23.00	22.00	18.00	12.00	11.00	7.00	7.00
12-17	32.00	25.00	24.00	22.00	17.00	12.00	11.00	9.00	7.00
12-18	31.00	26.00	23.00	20.00	17.00	13.00	12.00	9.00	7.00
12-19	31.00	26.00	22.00	20.00	18.00	13.00	12.00	9.00	7.00
12-20	31.00	28.00	23.00	21.00	18.00	12.00	11.00	9.00	7.00
12-21	40.00	28.00	25.00	20.00	18.00	12.00	11.00	9.00	8.00
12-22	50.00	30.00	24.00	21.00	18.00	12.00	9.00	8.00	5.00
12-23	51.00	30.00	23.00	20.00	16.00	12.00	9.00	8.00	6.00
12-24	47.00	30.00	23.00	19.00	16.00	12.00	9.00	7.00	6.00
12-25	40.00	29.00	24.00	20.00	16.00	13.00	9.00	7.00	7.00
12-26	32.00	26.00	21.00	19.00	17.00	11.00	9.00	8.00	7.00
12-27	29.00	26.00	21.00	19.00	17.00	10.00	9.00	7.50	6.50
12-28	28.00	24.00	22.00	20.00	15.00	11.00	9.20	7.00	6.00
12-29	27.00	24.00	21.00	18.00	15.00	12.00	11.00	9.00	6.50
12-30	26.00	21.00	20.00	19.00	15.00	13.00	12.00	9.00	6.00
12-31	25.00	22.00	20.00	18.00	16.00	13.00	12.00	9.00	6.00
MEAN	33.10	27.60	23.10	20.40	18.10	14.00	11.40	10.90	7.23

Appendix B

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
West Fork Stillwater	MDFWP	Approx. 3 miles upstream from Castle Creek	12- 4-74	25.2
			8- 6-75	159.9
			8-21-75	102.8
			9- 8-75	63.1
			9-29-75	45.0
			10-20-75	43.7
			12- 1-75	36.2
			12- 9-75	29.7
			1-12-76	23.0
			2-19-76	20.4
			3-16-76	16.3
			4- 8-76	23.4
			4-23-76	24.8
			5- 5-76	54.0
West Fork Stillwater	MDFWP	Approx. 1-2 miles upstream from Initial Creek	8- 4-75	132.6
			8-21-75	77.8
			8-29-75	51.8
			9-30-75	25.2
			10-29-75	21.3
			11-14-75	16.6
			12- 9-75	13.1
			1-14-76	11.8
			2-19-76	7.7
			3-16-76	7.3
			4- 8-76	11.0
			4-20-76	12.5
			5- 4-76	27.5
			5-20-76	249.0
Picket Pin Creek	MDFWP	At Forest Service boundary approx. 200 feet above mouth	7-17-75	47.3
			7-31-75	20.9
			8-20-75	13.1
			8-28-75	8.1
			9-29-75	6.7
			10-20-75	6.3
			11-25-75	6.7
			12- 8-75	6.6
			1-16-76	5.3
			2-18-76	4.5
			3-10-76	4.3
			4- 7-76	4.1
			4-23-76	5.0
			5- 6-76	11.1
			5-21-76	45.8
			6- 5-76	54.8
			6-21-76	45.5
			7- 5-76	31.4

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
Butcher Creek	USGS	NE¼ SW¼ S23, T6S, R18E, at bridge on county road just below confluence of E and W Forks of Butcher Creek, 2½ miles W of Luther	10- 4-60	1.0
			10-18-60	2.4
			11-15-60	.9
			1-31-61	.5
			4- 3-61	.8
			4-17-61	.7
			6- 5-61	1.2
Butcher Creek		NW¼ NW¼ S25, T5S, R18E, at Peterson Place, 2½ miles NE of Roscoe	10- 4-60	10.2
			10-18-60	8.1
			11- 1-60	5.6
			1- 3-61	1.3
			2-16-61	1.8
			3-20-61	1.6
			5- 2-61	4.2
			7- 5-61	22.6
			7-31-61	19.6
Butcher Creek		SW¼ NE¼ S36, T4S, R18E, 0.1 mile E of road junction, 3 miles E of Fishtail	9- 4-61	26.7
			10- 4-60	15.8
			11- 1-60	9.1
			11-15-60	7.2
			12-19-60	4.3
			1-17-61	3.6
			3- 2-61	2.7
			5- 2-61	5.5
			5-18-61	11.1
			6- 5-61	6.5
			6-19-61	17.1
			7-17-61	27.7
			8-17-61	42.2
Castle Creek	USGS	NW¼ SW¼ S26, T4S, R15E, Stillwater County, at county bridge just upstream from mouth, 2.7 miles (4.3 km) NW of Nye	9- 4-61	40.6
			9-18-61	27.7
			10-18-72	28.0
			11-10-72	22.3
			12-11-72	21.8
			1-10-73	18.1
			2- 9-73	18.0
			3-13-73	13.9
			4- 9-73	18.4
			5-11-73	45.9
			6-13-73	123.0
			7-19-73	42.8
			8-21-73	27.9
			9-18-73	29.7

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
West Fork Stillwater	USGS	NE¼ SW¼ S31, T4S, R16E Stillwater County, 300 ft. downstream from county bridge, 0.5 mile N of Nye, 0.7 mile upstream from mouth	10- 5-70	56.8
West Fork Stillwater 06202598	USGS	W½ S26, T4S, R15E, Stillwater County, at bridge 300 ft. downstream from Castle Creek, 2.7 miles NW of Nye, and 3 miles upstream from mouth	11-12-70 12-10-70 1-12-71 2-10-71 3-10-71 4-12-71 5-11-71 6-10-71 7- 8-71 8-16-71 9- 8-71 10- 7-71 11-18-71 12-15-71 1-20-72 2-18-72 3-23-72 4-19-72 5-23-72 6- 5-72 8-10-72 9-11-72 10-18-72 11-10-72 12-11-72 1-10-73 2- 9-73 3-13-73 4- 9-73 5-11-73 6-13-73 7-19-73 8-21-73 9-18-73 8-27-81 10-22-81 12- 2-81 1-13-82 3- 9-82 5- 3-82 7- 1-82 9- 8-82	62.0 46.1 32.8 35.8 30.6 31.7 130.0 899.0 448.0 143.0 128.0 108.0 57.1 52.0 41.8 41.4 47.1 46.4 259.0 683.0 139.0 125.0 92.4 60.3 55.8 39.1 45.5 33.0 40.0 90.9 599.0 179.0 101.0 88.9 59.6 42.9 35.3 30.3 25.5 60.7 822.0 81.1

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
Fishtail Creek 06204150	USGS	Near Dean	8-28-81	13.1
			10-23-81	9.3
			12- 3-81	6.7
			1-14-82	4.6
			3- 9-82	4.3
			5- 4-82	20.0
			6-30-82	134.0
			9- 9-82	12.8
West Fork Stillwater 06202590	USGS	Above Cathedral Creek near Nye	8-27-81	29.1
			10-22-81	10.8
			12- 3-81	9.9
			1-14-82	9.9
			3-10-82	7.0 est.
			7- 1-82	617.0
			9- 8-82	43.4

